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Los Alamitos 2010 General Plan

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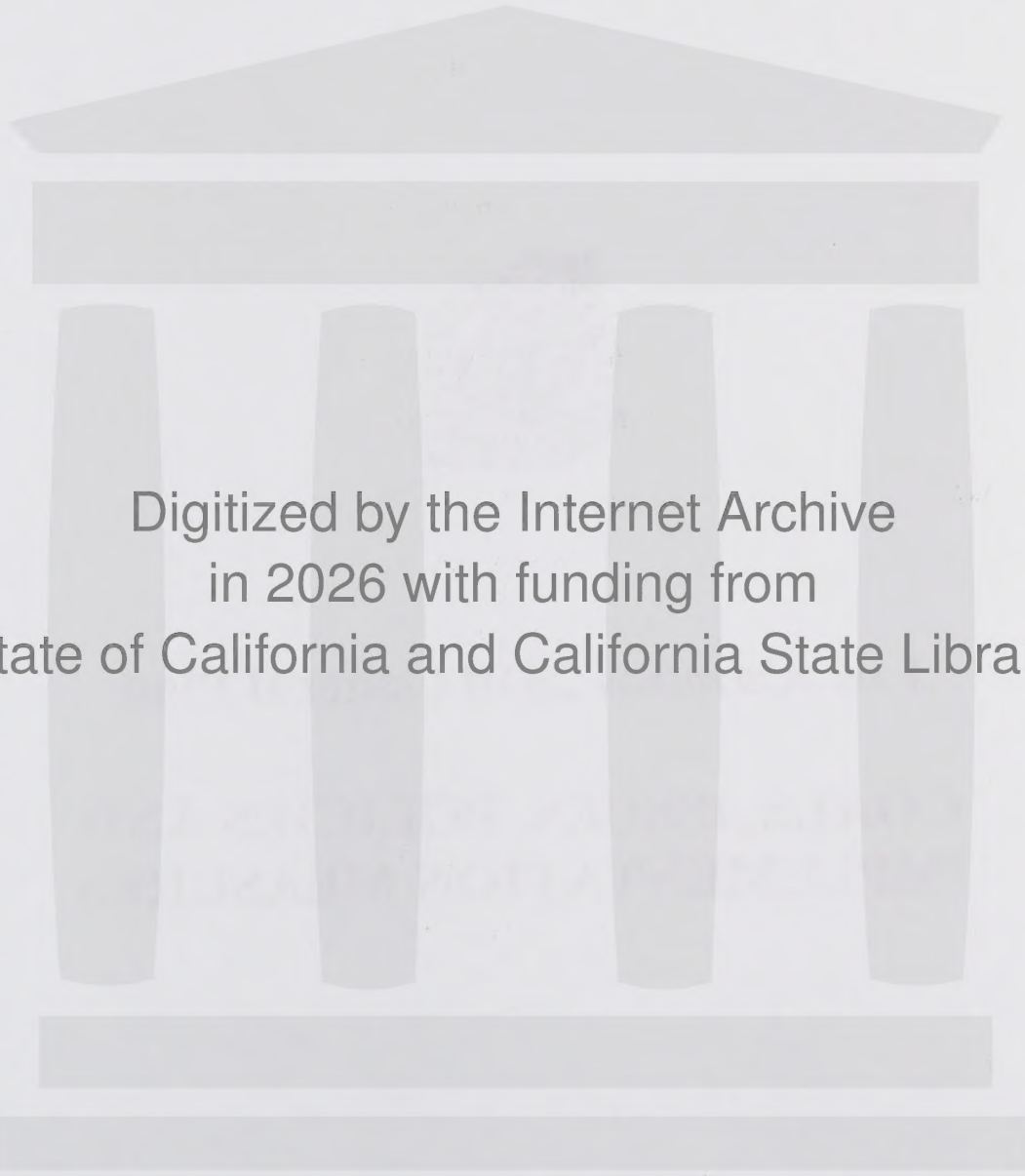
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UNIVERSITY OF CALIFORNIA



Los Alamitos 2010 General Plan

GOALS, ISSUES, POLICIES AND IMPLEMENTATION MEASURES



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Chapter 1

CITY OF LOS ALAMITOS 2010 GENERAL PLAN

LAND USE ELEMENT

GOALS, ISSUES, POLICIES, AND IMPLEMENTATION MEASURES

Goal One: Preserve and promote land uses which reflect Los Alamitos' small-town character with due regard for economic development and future growth potential.

Goal Two: Preserve and enhance the quality of the City's residential neighborhoods.

Goal Three: Promote and upgrade the quality of the City's commercial, industrial, and open space areas.

Issue One: *Compatibility among land uses in proximity to one another is of primary importance.*

Policies:

1-1.1 Employ accepted planning and engineering standards and practices as the basis for determining the compatibility of new land uses with existing uses.

1-1.2 Adopt feasible mitigation measures throughout the land use decision-making process to reduce impacts of new or expanded uses on existing residential neighborhoods.

1-1.3 Maintain consistency among General Plan Policies and Programs, the Zoning Ordinance, and related development regulations.

1-1.4 Encourage commercial, office, and industrial uses which are compatible with surrounding residential neighborhoods.

1-1.5 Permit new residential construction only in areas where such development will not adversely impact conforming commercial and industrial uses.

Implementation:

1-1.1.1 Review, and adopt or revise as necessary, criteria by which compatibility among land uses will be defined, including aesthetic standards and acceptable thresholds for increases in noise and traffic.

1-1.1.2 In areas where commercial and industrial zones adjoin residential zones, adopt alternative zoning ordinance provisions which may minimize adverse impacts.

- 1-1.1.3 Identify activities of commercial and retail uses which are incompatible with nearby residential uses and revise the zoning ordinance as appropriate to minimize adverse impacts.
 - 1-1.1.4 Identify commercial and industrial uses which may be inappropriate in areas adjoining residential zoning and revise the zoning ordinance to accommodate such uses in other areas.
 - 1-1.1.5 Identify residential zones where additional development may be incompatible with nearby commercial and industrial uses, and revise the zoning ordinance to minimize expansion of residential uses in such areas.
-

Issue Two: *Los Alamitos does not have a distinctive focal point such as a town square, a "Main Street", or a town center.*

Policies:

- 1-2.1 Promote development of a town square or town center in the vicinity of the Los Alamitos Blvd. and Katella Ave. intersection.

Implementation:

- 1-2.2.1 Create a Town Center or Town Square Specific Plan Zone.
 - 1-2.2.2 Adopt a Town Center or Town Square Zoning Specific Plan based on principles of the Center for Livable Communities initiative of the Local Government Commission.
 - 1-2.2.3 Provide appropriate incentives to implement the Town Center or Town Square Zone plan.
 - 1-2.2.4 Actively recruit developer(s) and/or tenants necessary to implement the Town Center or Town Square Specific Plan
-

Issue Three: *Commercial and industrial buildings and related improvements along the City's arterial streets lack visual unity and cohesion.*

Policies:

- 1-3.1 Apply appropriate and consistent standards in land use and site plan approvals to achieve continuity and cohesion in the physical development of the City.
- 1-3.2 Encourage consolidation of substandard commercially and industrially-zoned parcels whenever feasible.

Implementation:

- 1-3.3.1 Define architectural features and zoning ordinance development standards which enhance visual unity, within the context of existing development, and modify the Zoning Ordinance to include these characteristics in new and substantial renovation projects.
 - 1-3.3.2 Revise the Site Plan Review section of the Zoning Ordinance to incorporate design guidelines necessary to promote unifying design characteristics in new and renovated construction projects;
 - 1-3.3.3 Conduct informational seminars with the Planning Commission to inform all those involved as to the objectives of the Site Plan Review process.
-

Issue Four: *Consequences of land use decisions are critical to the long-term fiscal viability of the City of Los Alamitos.*

Policies:

- 1-4.1 Consider the fiscal impacts to the City as an integral part of land use decision-making.
- 1-4.2 Base land use decisions on reasoned analysis incorporating technical standards for review included in the respective Elements of the General Plan.
- 1-4.3 Consider General Plan Policies and Programs in making land use decisions.
- 1-4.4 Support annexations which will have a positive fiscal impact on the City.

Implementation:

- 1-4.4.1 In staff reports to the Planning Commission, include a summary of projected fiscal impacts of proposed projects;
- 1-4.4.2 Conduct an economic study of the City's commercial corridors and the Los Alamitos Plaza area and adjust land use designations appropriate to the adopted recommendations of the study and consistent with General Plan policies.
- 1-4.4.3 Prepare capital improvement programs in light of infrastructure needs consistent with build-out under the General Plan.

Issue Five: *Future uses of the Armed Forces Reserve Center property and of the Southern California Edison and Flood Control District easements along the Coyote Creek channel may have significant impacts on Los Alamitos.*

Policies:

- 1-5.1 Maintain consistency between the Land Use Element, and the Open Space and Recreation, and the Conservation Elements.
- 1-5.2 Inventory lands owned by public and quasi-public agencies and tentatively identify future uses, and work with the respective agencies to achieve such uses.

Implementation:

- 1-5.5.1 Evaluate all Site Plan Review and Zone Change requests for compliance with the Goals, Policies, and Programs of the General Plan.
 - 1-5.5.2 Maintain communications between the City and Armed Forces Reserve Center (AFRC) leadership to be apprised of future plans for the AFRC facility.
-

Issue Six: *Retain and enhance the small town character of Los Alamitos.*

Policies:

- 1-6.1 Develop and implement land use programs which address and promote the architectural and site design characteristics associated with small town character.

Implementation:

- 1-6.6.1 Review and revise Zoning and Subdivision Ordinances as necessary to maintain the small-scale, low-rise profile of the built environment consistent with the City's predominant, existing character, and to promote pedestrian circulation by requiring walking paths and wider sidewalks wherever possible.
- 1-6.6.2 Define and promote uses which afford Los Alamitos residents a variety of shopping, dining, and entertaining alternatives within the context of the small-scale, low-profile character of Los Alamitos.
- 1-6.6.3 Review capital spending plans for infrastructure improvements for conformity with the goals of maintaining and enhancing the small-scale, small town character of Los Alamitos.

2010 General Plan

Land Use Element

- 1-6.6.4 Retain all existing R-1, Single-Family zoning designations and revise R-1 Zoning standards as necessary to preserve the character of the City's R-1 neighborhoods.
- 1-6.6.5 Revise R-3, Multiple Family and R-2, Limited Multiple-Family property development standards to define maximum floor-area-ratios consistent with retention of the City's predominantly small-scale, low profile character.

Chapter 2

CITY OF LOS ALAMITOS 2010 GENERAL PLAN

CONSERVATION ELEMENT

GOALS, ISSUES, POLICIES, AND IMPLEMENTATION MEASURES

- Goal One:** Protect Los Alamitos' ground water resources from depletion and pollution.
- Goal Two:** Improve air quality.
- Goal Three:** Reduce Los Alamitos' solid waste stream.
- Goal Four:** Identify and encourage the preservation of significant architectural, historical, and cultural resources.
- Goal Five:** Encourage the conservation of energy.
- Goal Six:** Preserve and enhance the quality of the City's landscaped environment.
-

Issue One: *Water shortages and drought conditions are part of Southern California's climatic cycles.*

Policies:

- 2-1.1 Encourage the use of drought tolerant landscapes in new developments and encourage the replacement of existing water consumptive landscapes.
- 2-1.2 Encourage the conservation of water used for irrigation in parks, golf courses, recreation areas, commercial and industrial uses, and schools through the use of low-flow drip systems and water-efficient irrigation systems.
- 2-1.3 Comply with the policies and programs contained in the City's Water Conservation Ordinance.
- 2-1.4 Regulate commercial and industrial land uses to guard against the pollution of Los Alamitos' ground water resources.
- 2-1.5 Continue to work with representatives of the Los Alamitos Armed Forces Reserve Center (LAAFRC) to mitigate surface and groundwater contamination at this federal military facility.
- 2-1.6 Participate in and establish programs to increase public awareness of the dangers of water polluting activities such as dumping of oil, fuel and solvents, and excessive use of fertilizer and insecticides.

- 2-1.7 Promote the use of reclaimed water for groundskeeping in parks, golf courses, recreation areas, commercial and industrial uses, and schools.

Implementation:

- 2-1.1.1 Provide information and pamphlets to the public regarding facilities and locations, which accept and recycle waste motor oil. Continue to advertise Countywide "Hazardous Waste Roundup" collection events.
- 2-1.1.2 Implement the water conservation measures outlined in the "City of Los Alamitos Water Conservation Ordinance" , Chapter 13.04 of the Los Alamitos Municipal Code.
- 2-1.1.3 Continue to work with local agencies, the Rossmoor/Los Alamitos Sewer District and other sanitation districts, the Orange County Water Task Force, and the Regional Water Quality Control Board regarding the clean-up of regional groundwater basins.

Issue Two: *Los Alamitos is located in a region, which consistently fails to meet state and federal air quality standards.*

Policies:

- 2-2.1 Continue to provide and/or support alternative modes of transportation such as mass transit, dial-a-ride, rail systems, dedicated roadways, and conventional buses.
- 2-2.2 Encourage increased vehicle occupancy and car-pooling.
- 2-2.3 Provide safe and efficient facilities for pedestrians and bicyclists, integrating these with the County-wide system.
- 2-2.4 Improve traffic monitoring and metering systems.
- 2-2.5 Actively participate in regional and local governmental efforts to improve air quality.
- 2-2.6 Maintain and improve traffic signal synchronization and provisions for constant traffic flow on all major arteries throughout the city and as extensions of other programs of neighboring cities.
- 2-2.7 Encourage the creation of alternate fuel and energy recharging stations and repair facilities within the city.

- 2-2.8 Participate in and establish programs to increase public awareness of the dangers of air polluting activities including use of paints emitting volatile organic compounds, wood and charcoal barbecues, and pesticides.

Implementation:

- 2-2.2.1 Adopt local, regional, and state planning mechanisms which result in reduced traffic congestion and improved air quality.
-

Issue Three: *Excess solid waste is filling our region's landfills; source reduction and recycling is needed.*

Policies:

- 2-3.1 Encourage recycling and waste reduction in accordance with the Source Reduction and Recycling, Nondisposal Facility, and Household Hazardous Waste Elements of the adopted Integrated Waste Management Plan.

Implementation:

- 2-3.3.1 Promote recycling by providing information on recycling, including locations of centers and a list of items that can be recycled.
-

Issue Four: *Los Alamitos' architectural heritage may be lost through building demolitions and inappropriate remodeling efforts.*

Policies:

- 2-4.1 Encourage the adaptive reuse of buildings and structures of significant historical or cultural value.
- 2-4.2 Encourage and provide incentives for the preservation of significant architectural, historical, and cultural buildings.

Implementation:

- 2-4.4.1 Work with the Los Alamitos Museum Association to compile and maintain a current inventory of architectural, cultural, and historical resources in Los Alamitos and investigate the possibility of including these in the California and/or National Historic Register.

2010 General Plan

Conservation Element

- 2-4.4.2 Prepare a Historic Preservation Ordinance, in accordance with the guidelines set forth by the State Office of Historic Preservation which encourages and provides incentives for the preservation of structures with significant historical or cultural value, and facilitates applications for grants and funding for rehabilitation and improvement of historically significant properties.
 - 2-4.4.3 Require new and substantial refurbished buildings to comply with the City's architectural guidelines and "mission style" of design.
 - 2-4.4.4 Consider utilizing economic incentives, such as low interest loans and cash rebates of a portion of construction costs, to facilitate the architectural restoration of architecturally-significant buildings.
-

Issue Five: *Energy (power and natural gas) is a limited natural resource; conservation is necessary.*

Policies:

- 2-5.1 Promote State energy conservation guidelines, which require the incorporation of energy-saving designs and features into new and refurbished buildings.
- 2-5.2 Encourage residents, businesses, and public employees to follow energy conservation practices designed to reduce energy consumption.
- 2-5.3 Consider purchasing energy-efficient and environmentally safe vehicles and machinery.
- 2-5.4 Streamline departments' services and permitting mechanisms to minimize unnecessary traffic trips made by residents and developers.

Implementation:

- 2-5.5.1 Conduct energy audits on all City facilities and incorporate cost-effective measures to increase their energy efficiency.
- 2-5.5.2 Provide incentives for the installation of energy conservation measures in existing buildings characterized by high levels of energy consumption, including technical assistance and low-interest loans.
- 2-5.5.3 Compile a vendor's list of environmentally sensitive products and services for use and purchase by the City.

Issue Six: *Vegetation on both public and private property provides significant benefits.*

Policies:

- 2-6.1 Retain and maintain the quality and health of existing landscape in the public open spaces (sidewalks, alleys, parks, civic and cultural facilities, and at schools).
- 2-6.2 Encourage property owners to both maintain and promote landscaping on developed sites.
- 2-6.3 Encourage developers to incorporate mature and specimen trees and other significant vegetation, which may exist on a site into the design of a development project for that site.
- 2-6.4 Work with Caltrans to encourage the installation and maintenance of adequate landscaping along freeways in proximity to the City of Los Alamitos.
- 2-6.5 Encourage procedures that optimize the useful life of all City owned and maintained trees and plants while ensuring that these trees and plants do not damage the City's infrastructure.

Implementation:

- 2-6.6.1 Prepare a "Master Tree Planting and Maintenance Plan" which outlines the appropriate species, planting locations, and procedures for placement and replacement of trees within public right-of-ways and at City-owned facilities.
- 2-6.6.2 Prepare informational pamphlets for public distribution that describe water saving irrigation practices; a list of drought-resistant plants; and, resources for low water gardening; and gray water recycling systems.
- 2-6.6.3 Encourage the proper maintenance of private property and vegetation.

Chapter 3

CITY OF LOS ALAMITOS 2010 GENERAL PLAN

SAFETY ELEMENT

GOALS, ISSUES, POLICIES, AND IMPLEMENTATION MEASURES

Goal One: **Protect residents and property from natural disasters, fire and crime.**

Issue One: *Los Alamitos is likely to experience natural disaster in the future.*

Policies:

3-1.1 Take all necessary steps to be prepared for a major disaster.

Implementation:

3-1.1.1 Cooperate with the Federal Emergency Management Agency (FEMA), Office of Emergency Services (OES), and other local, state, and federal agencies involved in preparing and implementing safety standards and regulations.

3-1.1.2 Establish ongoing training for City officials and City employees in the procedures and practices of the Standardized Emergency Management System mandated by Government Code Section 8607.

3-1.1.3 Update the City's Emergency Operations Plan every five years so that planning, staffing, training, facilities, and equipment are adequate to deal with a natural disaster and its aftermath.

3-1.1.4 Assist residents and businesses in preparing for a natural disaster and its aftermath.

3-1.1.5 Use City Hall and the local Cable television as an information center for the disbursement of disaster preparedness and safety information.

3-1.1.6 On at least a yearly basis, offer a disaster preparedness class through the City's Department of Parks and Recreation.

3-1.1.7 Use Community Development Block Grant funds to assist lower income households with the purchase of safety devices such as gas turn-off wrenches and smoke alarms.

3-1.1.8 Evaluate the Federal Emergency Management Agency's new policies and regulations regarding applicability to Los Alamitos.

- 3-1.1.9 Inform the public about the nature, severity, and local impact of natural disasters likely to affect Los Alamitos.
-

Issue Two: *Los Alamitos is potentially at risk of a major earthquake.*

Policies:

- 3-2.1 Take all necessary steps to be prepared for a major earthquake.

Implementation:

- 3-2.2.1 Require all new development to comply with seismic safety standards incorporated in current Building Codes.
- 3-2.2.2 Work with the Fire Authority to include earthquake preparedness considerations in all regular inspections.
- 3-2.2.3 Require new or substantially remodeled development to be properly designed and constructed for earthquake safety.
- 3-2.2.4 Work with owners of buried utility lines and petroleum and natural gas pipelines so that lines are protected from corrosion and are equipped with automatic shut-off valves.
- 3-2.2.5 Maintain a list of unreinforced masonry buildings in the City. (There are no unreinforced masonry buildings in the City of Los Alamitos.)
- 3-2.2.6 Cooperate with Caltrans in their bridge and overpass seismic-retrofit programs.
-

Issue Three: *Los Alamitos is potentially at risk in the event of a 100-year flood.*

Policies:

- 3-3.1 Take appropriate steps to protect new and existing development from flooding.
- 3-3.2 Maintain and expand the City's flooding disaster preparedness and emergency response capabilities.
- 3-3.3 Support public education programs on flood protection, and emergency preparedness and procedures.

Implementation:

- 3-3.3.1 Maintain consistency between City ordinances and FEMA requirements.

- 3-3.3.2 Where fiscally feasible, fund drainage system improvements which increase local flood protection capacity.
 - 3-3.3.3 Cooperate with the Orange County Flood Control District (OCFD), Federal Emergency Management Agency (FEMA), and other local, state, and federal agencies involved in preparing and implementing flood standards and regulations.
-

Issue Four: *Fire protection is an important and necessary service in Los Alamitos.*

Policies:

- 3-4.1 Maintain and expand programs that protect life and property from fire.

Implementation:

- 3-4.4.1 Where necessary, upgrade fire flows for adequate fire protection.
 - 3-4.4.2 Continue to utilize the fire protection services of the Orange County Fire Authority.
 - 3-4.4.3 Continue to utilize a joint services agreement with the Armed Forces Reserve Center Fire Department.
 - 3-4.4.4 Promote the use of fire retardant building materials for remodels and new construction.
-

Issue Five: *Prevention of crimes committed against individuals and property is critical to maintenance of the quality of life in Los Alamitos.*

Policies:

- 3-5.1 Continue to work closely with the Police Department and community groups to address crime problems and areas in the City.

Implementation:

- 3-5.5.1 Submit new development site plans to the Police Department for public safety suggestions.
- 3-5.5.2 Initiate and promote the City's Neighborhood Watch Programs.

2010 General Plan

Safety Element

- 3-5.5.3 Actively remove graffiti and encourage citizens to promptly report incidences of graffiti.
- 3-5.5.4 Utilize site planning mechanisms such as security lighting and well designed parking lots to minimize crime opportunities.

Chapter 4

CITY OF LOS ALAMITOS 2010 GENERAL PLAN

OPEN SPACE AND RECREATION ELEMENT

GOALS, ISSUES, POLICIES, AND IMPLEMENTATION MEASURES

Goal One: **Develop and maintain an accessible and quality system of public parks and recreational facilities.**

Goal Two: **Provide a variety of quality recreational programs that serve the diverse interests and needs of Los Alamitos' youth and adults.**

Goal Three: **Promote the rational use, preservation, and conservation of open space.**

Issue One: *Due to its built-out status, Los Alamitos has limited land resources to address its parkland needs.*

Policies:

4-1.1 Encourage preservation of Los Alamitos' existing system of parks, recreational facilities, and bikeways.

4-1.2 Promote access to parks and recreational facilities for all Los Alamitos residents, including disabled persons.

4-1.3 Employ all feasible means to attain a minimum of 2.5 acres of parkland per 1,000 residents.

4-1.4 Continue to collect parkland fees from residential land developers to fund upgrades to existing parks and to purchase new parks in the City.

4-1.5 Utilize vacant, undeveloped, or surplus lands, easements, or rights-of-way of public utilities or governmental units or agencies that become available for open space and recreational facilities.

Implementation:

4-1.1.1 Prepare a "Parks and Recreation Master Plan" that identifies the needed recreational programs and park facilities in the City and includes the various options for funding same.

4-1.1.2 Preserve and protect selected areas *along* the San Gabriel River, Coyote Creek, and the 1,300-acre Los Alamitos Armed Forces Reserve Center (AFRC) as open

2010 General Plan

Open Space & Recreation Element

space and for public recreational uses, and work with the respective owner/trustee agencies to achieve such ends.

- 4-1.1.3 Take appropriate action to retain the use of a joint use parking area at the General Telephone facility for patrons of the Los Alamitos Community Center.
- 4-1.1.4 Continue to collect parkland fees from residential land developers to fund upgrades to existing parks and to purchase new parks in the City.
- 4-1.1.5 Maintain the City's "Vacant Land List" and "Under Utilized Parcel Survey" (UUPS) to facilitate locating and purchasing future park parcels.
- 4-1.1.6 Work with AFRC representatives to secure a City park on the grounds of the AFRC.
- 4-1.1.7 Retrofit City parks and recreational facilities in compliance with the accessibility requirements of the "Americans with Disabilities Act."
- 4-1.1.8 Prepare an annual report showing park development fund balances, anticipated revenues and expenditures, current and future funding needs, and potential means of funding such needs.

Issue Two: *There are opportunities for the new and expanded recreational and park use of school facilities owned by the Los Alamitos Unified School District.*

Policies:

- 4-2.1 Work with the Los Alamitos Unified School District to provide joint use of school facilities for park and recreational programs.
- 4-2.2 Work with the Los Alamitos Unified School District to develop parks and/or other public recreational facilities on school property.
- 4-2.3 Consider acquiring part of a public school as open space, pursuant to the Naylor Act, should any school be sold or leased for another use.

Implementation:

- 4-2.2.1 Renegotiate existing facility/joint use agreements (subject to expiration) between the City and Los Alamitos Unified School District regarding the long-term use of school properties for public park and recreational purposes.
- 4-2.2.2 Negotiate new long-term facility/joint use agreements between the City and Los Alamitos Unified School District for the long-term use of school properties for public park and recreational purposes.

- 4-2.2.3 Work with the Los Alamitos Unified School District to develop a multi-use park and recreational facility at McAuliffe Middle School.
-

Issue Three: *Certain areas of the City are deficient in parks and recreational programs.*

Policies:

- 4-3.1 Research funding and grant opportunities for the acquisition and purchase of a park to serve the Carrier Row and New Dutch Haven neighborhoods.
- 4-3.2 Acquire parkland in the southern part of the city to serve the Carrier Row and New Dutch Haven neighborhoods
- 4-3.3 Work with AFRC representatives to secure parklands at the AFRC to serve the Carrier Row and New Dutch Haven neighborhoods
- 4-3.4 Provide year round recreational programming opportunities for the high density residential area of Apartment Row.
- 4-3.5 Work with adjacent communities to develop joint use recreational opportunities, facilities, and parks.

Implementation:

- 4-3.3.1 Prepare a "Parks and Recreation Master Plan" that identifies the areas of the City in greatest need of additional parks and recreational programs.
-

Issue Four: *Maintenance and upgrading of Los Alamitos' parks, facilities, and recreational programs is necessary.*

Policies:

- 4-4.1 Upgrade existing recreational facilities and parks.
- 4-4.2 Continue to provide a variety of quality recreational programs that serve the diverse interests and needs of its youth and adults.

Implementation:

- 4-4.4.1 Prepare and adopt a Capital Improvement Program for the replacement of playground equipment, the development of restrooms at all City parks of four (4) acres or more, and the remodeling and maintenance of park structures.

- 4-4.4.2 Prepare and circulate annual surveys to accurately assess resident's existing and future needs for recreational programs and park facilities in the City.
- 4-4.4.3 Maintain an adequate level of staffing at park facilities.
- 4-4.4.4 Examine and use all possible means of funding, including grants, donations, development fees, user fees, and public/private partnerships for the maintenance and improvement of park facilities and recreational programs. This includes the "Urban Parks Fund."

Chapter 5

CITY OF LOS ALAMITOS 2010 GENERAL PLAN

CIRCULATION AND TRANSPORTATION

GOALS, ISSUES, POLICIES, AND IMPLEMENTATION MEASURES

- Goal One:** Provide an efficient network of streets, bikeways, and pedestrian areas which promote the safe and efficient movement of people and goods.
- Goal Two:** Provide adequate off-street parking and loading facilities for businesses and public facilities throughout the City.
- Goal Three:** Maintain safe and adequate infrastructure services.
-

Issue One: *Certain City arterials and intersections are operating at substandard Levels of Service.*

Policies:

- 5-1.1 Maintain a Level of Service “D” or better on all City arterials and at intersections.
- 5-1.2 Employ feasible mitigation measures so that levels of service of nearby arterials and intersections are not degraded by traffic to and from the Armed Forces Reserve Center.
- 5-1.3 Take steps whenever feasible so that development proposals in adjacent cities will not diminish levels of service on arterials or at intersections within the City of Los Alamitos.
- 5-1.4 Cooperate with neighboring cities, the California Department of Transportation and the Orange County Transportation Authority in making mutually-beneficial transportation improvements.

Implementation:

- 5-1.1.1 Require developers of projects with property frontage on Katella Avenue and which are expected to generate 1,600 trip-ends or more per day, or projects elsewhere in the City expected to generate 2,400 trip-ends or more per day, to provide a traffic impact analysis including appropriate mitigation measures.
- 5-1.1.2 Require that projects, contributing one percent or more to the critical movement of an intersection that currently operates, or is projected to operate below the target Level of Service, be conditioned to include traffic mitigation measures necessary to maintain a Level of Service D or better on affected City arterials and intersections.

- 5-1.1.3 Continue to refine signal phasing programs during peak periods to optimize traffic flow on arterials.
 - 5-1.1.4 Improve signal coordination on arterials and, where feasible, in conjunction with neighboring jurisdictions.
 - 5-1.1.5 Continue to work with Armed Forces Reserve Center (AFRC) administration so that traffic flows to and from the AFRC do not impact City standards and level of service goals.
 - 5-1.1.6 As part of a five-year Capital Improvement Program which addresses the maintenance, repair, and upgrading of the City's transportation system, identify and locate funding for citywide transportation improvements, including roadway widenings and signalization.
 - 5-1.1.7 Update and improve, where feasible, the City's street design standards.
 - 5-1.1.8 Continue to implement the County Master Plan of Arterial Highways.
 - 5-1.1.9 Monitor congested areas with an annual traffic count programs.
 - 5-1.1.10 Periodically measure Levels of Service for roadway segments and intersections.
 - 5-1.1.11 Define standards for limiting driveway access to arterials.
 - 5-1.1.12 Monitor traffic accidents on a city-wide basis to determine causes and problem locations, and where feasible, to mitigate problems.
-

Issue Two: *Certain neighborhoods are impacted by through traffic.*

Policies:

- 5-2.1 Protect and preserve residential neighborhoods from the intrusion of cut-through traffic.
- 5-2.2 Take feasible steps to minimize traffic impacts to residential areas to and from the Armed Forces Reserve Center.

Implementation:

- 5-2.2.1 Design local and collector streets so as to discourage through traffic.
- 5-2.2.2 Continue to work with AFRC administration so that traffic flows to and from the AFRC do not adversely impact local residential neighborhoods.

2010 General Plan

Circulation Element

- 5-2.2.3 Monitor congested residential areas with an annual traffic count program and, if possible, mitigate any identified traffic problems.
 - 5-2.2.4 Evaluate the potential for traffic-calming measures in residential neighborhoods as an alternative to, or in addition to, traditional traffic control devices such as stop signs.
-

Issue Three: *Extension of several streets would improve the City's overall circulation system.*

Policies:

- 5-3.1 Where feasible, utilize underdeveloped, vacant, or surplus railroad rights-of-way lands for through street extensions.

Implementation:

- 5-3.3.1 Investigate the feasibility of improving access to Katella Avenue and Los Alamitos Boulevard by extending existing dead-end streets.
 - 5-3.3.2 Investigate the potential for a Reagan Street connection to Cerritos Avenue to increase access and circulation opportunities.
 - 5-3.3.3 Consider the abandoned railroad right-of-way between Bloomfield Avenue and the extension of Lexington Avenue (proposed) as a means to provide improved access to Los Alamitos Elementary and McAuliffe Middle Schools and for pedestrian and bicycle circulation routes integrated with the County-wide system.
-

Issue Four: *Due to regional air quality problems and traffic congestion, utilization of public transit and non-motorized means of transportation is important. Current transportation infrastructure discourages alternatives to automobile travel.*

Policies:

- 5-4.1 Encourage walking and bicycling as attractive alternatives to vehicular transportation.
- 5-4.2 Adequately illuminate and landscape City sidewalks and public areas to encourage pedestrian-oriented activities.
- 5-4.3 Support alternatives to single-occupancy vehicle use.

Implementation:

- 5-4.4.1 Work with the Orange County Transportation Authority (OCTA) to improve bus ridership among people living, shopping, and working in Los Alamitos.

2010 General Plan

Circulation Element

- 5-4.4.2 Encourage physical designs for new development which provide convenience and security to transit users and facilitate non-motorized transportation.
 - 5-4.4.3 Invite the Orange County Bicycle Coalition to recommend economically-feasible infrastructure improvements or modifications that will facilitate bicycle ridership.
 - 5-4.4.4 Provide safe, attractive, and clearly identifiable transit stops.
 - 5-4.4.5 Encourage physical improvements in all new developments which facilitate pedestrian circulation.
 - 5-4.4.6 Consider alternative designs for rights-of-way improvements which would accommodate pedestrians and non-motorized vehicles, paying special attention to the configuration of bicycle path/roadway intersections, the possible inclusion of bicycle lanes and routes, the need for wheelchair accessibility, and the importance of maintaining lines-of-sight at alley/sidewalk intersections.
 - 5-4.4.7 Promote instruction in effective cycling, as approved by the League of American Wheelmen, through the Parks and Recreation Department and through the Los Alamitos Unified School District.
 - 5-4.4.8 Where feasible, install traffic signal activation devices which detect motorcycles and bicycles which may legally occupy the road space.
-

Issue Five: *Parking is substandard and/or lacking at some commercial and industrial centers, and at Civic facilities.*

Policies:

- 5-5.1 Encourage owners of substantially remodeled commercial and industrial centers to provide adequate on-site parking.
- 5-5.2 Provide adequate on-site parking at civic facilities (parks, City Hall, Los Alamitos Community Center, etc.).

Implementation:

- 5-5.5.1 Work to maintain access to the General Telephone parking lot for users of the Los Alamitos Community Center.
- 5-5.5.2 Prepare a Citywide commercial and industrial parking study to identify parking needs and resources.

2010 General Plan

Circulation Element

Issue Six: *Certain City roadways are not designed to support trucks without sustaining structural damage*

Policies:

- 5-6.1 Develop a truck route ordinance defining truck routes and setting forth weight limitations, as required.
-

Issue Seven: *Los Alamitos' infrastructure (sewer, water, drainage lines, streets, sidewalks) is older and requires regular maintenance, repair, and upgrading.*

Policies:

- 5-7.1 Work with the Rossmoor-Los Alamitos Sewer District so that residents and businesses have adequate and efficient sewage waste disposal services.
- 5-7.2 Work with the Southern California Water Company so that residents and businesses have quality drinking water and an adequate water supply for fire protection and landscaping needs.
- 5-7.3 Work with the Los Angeles Flood Control District and Orange County Environmental Management Agency so that residents and businesses are adequately protected from flooding.
- 5-7.4 Work with safety agencies, such as the Orange County Fire Authority and the AFRC Fire Department, so that residents and businesses are adequately protected from fires and other natural disasters.

Implementation:

- 5-7.7.1 Prepare and maintain a five-year Capital Improvement Program which addresses the maintenance, repair, and upgrading of the City's transportation system (streets, bikeways, and sidewalks).
- 5-7.7.2 Participate with local service providers (Los Alamitos Water District, Southern California Company, Los Angeles Flood Control District and Orange County Environmental Management Agency, Orange County Fire Authority and the AFRC Fire Department, and others) in the capital improvement planning processes.
- 5-7.7.3 Utilize joint service agreements, such as the one with the AFRC Fire Department, so that residents and businesses are provided with efficient and cost-efficient services.
- 5-7.7.4 Prepare a Master Plan of streetlights and sidewalks throughout the City.
- 5-7.7.5 Prepare rights-of-way standards for all streets and alleys.

Chapter 6

CITY OF LOS ALAMITOS 2010 GENERAL PLAN

NOISE ELEMENT

GOALS, ISSUES, POLICIES AND IMPLEMENTATION MEASURES

Goal One: **Protect noise sensitive land uses, including residences, schools, hospitals, libraries, churches and convalescent homes from high noise levels from both existing and future noise sources.**

Issue One: *The City of Los will experience additional transportation-related noise impacts as new development occurs throughout the City and in the surrounding region.*

Policies:

6-1.1 Noise mitigation measures for future development should comply with the standards included in the City of Los Alamitos Noise Element.

Implementation:

6-1.1.1 Require an acoustical analysis study in conjunction with individual developments located within the 60 dBA noise contour (tentative tract maps and building permits) in order to determine precise noise barrier heights, locations and building structure noise mitigation (i.e., upgraded windows, mechanical ventilation, etc.).

6-1.1.2 For all areas within the Year 2020 60 dBA CNEL roadway contours, future residential lots and dwellings shall be sound attenuated against present and projected noise, which shall be the sum of all noise impacting the project, so as not to exceed an exterior standard of 65 dBA CNEL in outdoor living areas, and an interior standard of 45 dBA CNEL in all habitable rooms. An acoustical study shall be prepared under the supervision of a person experienced in the field of acoustical engineering.

6-1.1.3 Prior to the recordation of a final tract/parcel map, or prior to the issuance of grading permits, at the sole discretion of the City, an acoustical analysis report shall be submitted to the City for approval. The report shall describe in detail the exterior noise environment and preliminary mitigation measures. Acoustical design features to achieve interior noise standards shall be included in the report.

6-1.1.4 Prior to the issuance of any building permits for structures subject to the noise mitigation requirements of Title 24 of the California Administrative Code, an acoustical analysis report describing the acoustical design

2010 General Plan

Noise Element

features of the structures required to satisfy the exterior and interior noise standards shall be submitted to the City for approval, along with satisfactory evidence that indicates the sound attenuation measures specified in the approved acoustical report(s) have been incorporated into the design of the project.

6-1.1.5 Prior to the issuance of any Certificates of Use and Occupancy, field testing in accordance with California Administration Code Title 25 regulations may be required by the City to verify compliance with Sound Transmission Class (STC) and Impact Insulation Class (IIC) design standards.

6-1.1.6 Noise mitigation measures shall be developed from a list of City approved measures. The approved noise mitigation measures include: site design, such as setbacks from the roadways, grade separations and exterior living area orientations, noise barriers, mechanical ventilation (i.e., air conditioning) and upgraded windows. Additional measures shall be approved at the discretion of the City of Los Alamitos.

6-1.1.7 Review land use patterns in the community noise environment, and amend the Land Use map as appropriate to assure reasonable land use/noise compatibility.

Issue Two: *In an urban setting, stationary source noise impacts such as air compressors, generators and outdoor loudspeakers may impact noise sensitive areas.*

Policies:

6-2.1 Potential noise impacts due to stationary sources should be mitigated in the planning stage.

Implementation:

6-2.2.1 New noise generators shall not be located in the vicinity of noise sensitive receptors unless they can be adequately mitigated. Land use should be zoned such that high noise generators such as industrial or manufacturing activities are buffered from sensitive uses by moderate uses such as commercial or office uses.

6-2.2.2 All sources of stationary noise shall comply with the City of Los Alamitos Noise Ordinance.

2010 General Plan

Noise Element

6-2.2.3 A noise study shall be prepared at the discretion of the City of Los Alamitos by an acoustical consultant for new development, including but not limited to any of the following uses:

- * Printing Press
- * Riveting Machine
- * Milling Machine
- * Rock Crusher
- * Commercial Trash Compactors
- * Truck Loading Docks
- * Power Generators
- * Pneumatic Tools
- * Drive-Through Speakerphones
- * Well Pumps
- * Shooting Ranges

This study should quantify future noise levels, and recommend specific mitigation measures.

6-2.2.4 All construction vehicles or equipment fixed or mobile operated shall be equipped with properly operating and maintained mufflers.

6-2.2.5 Stock piling and/or vehicle staging areas shall be located as far as practical from residential homes.

6-2.2.6 Construction which can impact noise sensitive receptors shall be limited to the hours of 7:00 AM to 7:00 PM on Monday through Saturday, and shall be prohibited on Sundays and federal holidays in order to minimize disruption to existing residential neighborhoods.

6-2.2.7 Noise impacts from construction operations should be reduced during the evening by replacing backup audible warning devices with backup strobe lights or other warning devices to the extent permitted by the California Occupational Safety and Health Administration.

Chapter 7

CITY OF LOS ALAMITOS 2010 GENERAL PLAN

ECONOMIC DEVELOPMENT ELEMENT

GOALS, ISSUES, POLICIES AND IMPLEMENTATION MEASURES

- Goal One:** Enhance the fiscal viability of Los Alamitos by promoting retention and expansion of existing revenue bases, and development of new City revenue sources.
- Goal Two:** Identify economic strengths and incentives unique to Los Alamitos.
- Goal Three:** Promote revitalization of existing commercial centers.
- Goal Four:** Promote a healthy economic mix among retail, office, and industrial uses.
-

Issue One: *Property tax and sales tax revenues to the City of Los Alamitos have not kept pace with inflation.*

Policies:

- 7-1.1 Provide an environment attractive to business.
- 7-1.2 Actively promote expansion and retention of existing businesses.
- 7-1.3 Aggressively seek new businesses.

Implementation:

- 7-1.1.1 Recruit successful retailers to expand into Los Alamitos.
- 7-1.1.2 Structure and implement assistance programs tailored to the needs of businesses at select, strategically-located retail locations.
- 7-1.1.3 Identify and pursue development of building sites and existing facilities which may be adapted for more productive retail uses.
- 7-1.1.4 Maintain regular contact with business owners to identify changing competitive needs.
-

Issue Two: *The City of Los Alamitos lacks the fiscal tools to compete with other cities in attracting new, sales tax-producing businesses.*

2010 General Plan

Economic Development Element

Policies:

- 7-2.1 Employ alternative mechanisms for promoting economic growth.
- 7-2.2 Market the benefits of locating in Los Alamitos.

Implementation:

- 7-2.2.1 Adopt appropriate land use policies which encourage desirable retail development at strategic retail locations along Los Alamitos Boulevard and along Katella Avenue.
 - 7-2.2.2 Take the lead in organizing special business marketing, promotion, and improvement districts.
 - 7-2.2.3 Identify public improvements and infrastructure that can be funded by the City for the benefit of key tenants.
 - 7-2.2.4 Provide financial assistance for desired retail development providing a reasonable revenue return on the City's investment.
 - 7-2.2.5 Sponsor market research to identify untapped retail potential and promote greater market penetration for select retailers.
 - 7-2.2.6 Develop promotional materials based on the demographics of Los Alamitos and highlighting such intangibles as "small-town feeling" and personal safety.
-

Issue Three: *Existing strip commercial centers need to be improved.*

Policies:

- 7-3.1 Actively pursue alternative uses for economically and functionally obsolete buildings.
- 7-3.2 Consider economic incentives, except tax-increment financing, to promote retail center rehabilitation.

Implementation:

- 7-3.3.1 Sponsor market research to identify untapped retail potential and potential retail tenants.
- 7-3.3.2 Define and implement incentives programs for commercial property owners undertaking appropriate renovations.

2010 General Plan

Economic Development Element

- 7-3.3.3 Consider incentives for renovation of signs on retail properties.
 - 7-3.3.4 Craft land use regulations which facilitate reuse of economically obsolete commercial and industrial properties.
-

Issue Four: *Los Alamitos seems to have a disproportionate number of office uses relative to retail uses.*

Policies:

- 7-4.1 Promote re-use of functionally obsolete office buildings.
- 7-4.2 Monitor shifts in land use economics that affect the balance of land uses.

Implementation:

- 7-4.4.1 Adopt revised zoning standards appropriate to promoting recycling of obsolete office buildings.
- 7-4.4.2 Consider incentives appropriate to promotion of alternative uses for obsolete properties.
- 7-4.4.3 Provide marketing assistance in securing tenants for recycled properties.
- 7-4.4.4 Study alternative use possibilities for office properties with consistently and significantly higher than average vacancy rates.

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**Los Alamitos 2010 General Plan
Background Technical Reports
February 1998**

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CHAPTER 1 – LAND USE ELEMENT

Background Technical Report

INTRODUCTION

Scope and Purpose of the Land Use Element

The land use element has the broadest scope of the seven state-mandated general plan elements. It plays the important role of coordinating citywide land use in the context of the plan's other elements. In almost every instance, land use affects or is affected by every general plan element.

Among the many state-mandated requirements, Section 65302(a) of the Government Code requires a general plan's land use element to, "designate the proposed general distribution and location and extent of uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities . . . it shall include a statement of population density and building intensity recommended for various districts . . ."

Organization of the Land Use Element

The Land Use Element of the *Los Alamitos 2010 General Plan* is comprised of two documents, the Background Technical Report (BTR) and the policy document. The BTR contains the baseline data and information necessary to support the goals, policies, and implementation programs contained in the policy document.

1.0 Existing Land Use

Information pertaining to Los Alamitos' existing land uses was obtained from numerous sources. These sources include field investigations, business license records, aerial maps, Orange County Assessor's records and maps, and U.S. Department of Commerce Bureau of Census data for 1990.

The City of Los Alamitos encompasses 2,752 acres. Approximately 1,413 acres or 51 percent of the City's total land area is occupied by urban uses while 1,339 acres or 49 percent is occupied by the Los Alamitos Armed Forces Reserve Center (AFRC). Los Alamitos' non-AFRC land uses include: residential, commercial, industrial-manufacturing, public/quasi-public uses (municipal services, parks, hospitals, schools, churches, utility and railroad right-of-ways), and streets.

On-site facilities at the Los Alamitos Armed Forces Reserve Center (AFRC) presently include two runways and associated taxiways, ramp space, and hangars. The AFRC is primarily used for helicopter training missions and there are approximately 80,000 yearly flight operations at the facility.

The State of California's Office of Emergency Services (OES) has a facility at the Los Alamitos Armed Forces Reserve Center (AFRC). This facility has access to a 10,000 foot long landing

strip which is capable of accommodating any type of emergency aircraft. The OES, which is staffed by full-time personnel, has activated its emergency services during times of civil disturbance, floods, wild fires, and other emergencies. OES, with the cooperation of the Federal Emergency Management Agency (FEMA) and the California National Guard, has made an ongoing commitment of cooperation in the event of a natural emergency.

The AFRC is identified as a Special Study Area in the General Plan. This area is to be monitored continually for future development proposals in the event this military facility is discontinued.

Table 1-1 depicts citywide acreage for Los Alamitos' nine General Plan land use categories as of January, 1997. Figure 1-1, "Land Use" displays Los Alamitos' permitted General Plan land use patterns.

Table 1-1
City of Los Alamitos
General Plan Land Use Category by Acreage
January, 1997

Land Use Category	1997 Acreage	% of Total City Non-AFRC Land
1) Single Family Residential	334	24%
2) Limited Multiple Family Residential	23	2%
3) Multiple Family Residential	171	12%
4) Professional Office	63	4%
5) Retail Business	74	5%
6) Planned Industrial	248	18%
7) Community & Institutional	154	11%
8) Open Area	346	24%
SUBTOTAL Non-AFRC Land	1,413 acres	100%
9) Armed Forces Reserve Center (AFRC)	1,339 acres	
TOTAL	2,752 acres	

Note: Gross acreage given.

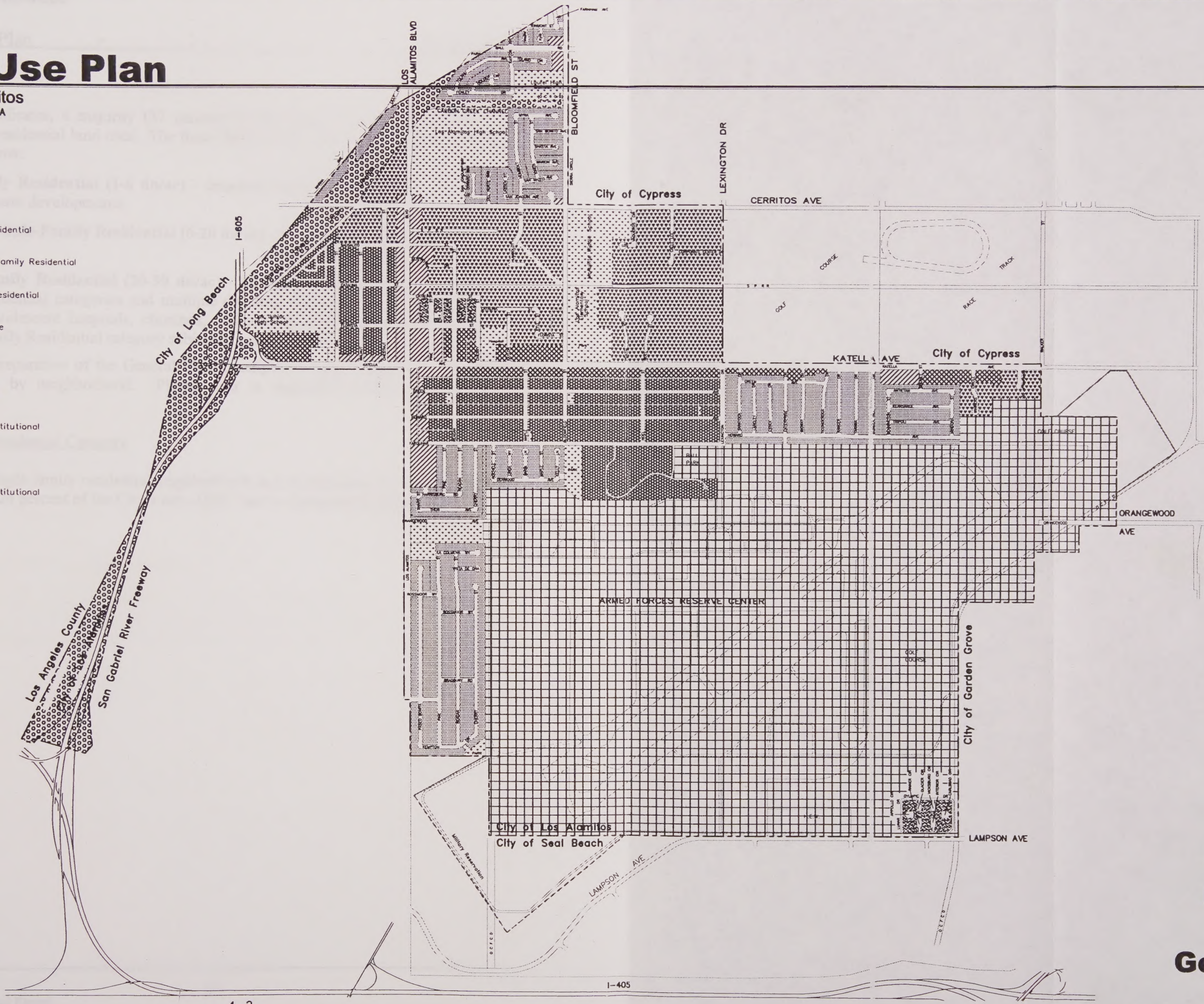
Source: Los Alamitos Planning Department, January, 1997.

Land Use Plan

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

- City Boundary
- Single Family Residential
- Limited Multiple Family Residential
- Multiple Family Residential
- Professional Office
- Retail Business
- Planned Industrial
- Community & Institutional
- Open Area
- Community & Institutional AFRC



NOT TO SCALE



General Plan

FIGURE 1-1

Residential

As Table 1-1 indicates, a majority (37 percent) of the City's total non-AFRC land area is developed with residential land uses. The three General Plan categories for residential land use are described below:

- **Single-Family Residential (1-6 du/ac)** - detached single-family homes on individual lots and planned-unit developments.
- **Limited Multiple-Family Residential (6-20 du/ac)** - single-family residences, duplexes and triplexes.
- **Multiple-Family Residential (20-30 du/ac)** - all types of development permitted in less intensive residential categories and multiple dwelling buildings of 4 or more. Other uses such as convalescent hospitals, churches, and mobile home parks are permitted in the Multiple-Family Residential category subject to special procedures.

As part of the preparation of the General Plan, descriptions were prepared for Los Alamitos' residential areas by neighborhood. Please refer to Appendix A for these neighborhood descriptions.

Single-Family Residential Category

There are ten single-family residential neighborhoods in Los Alamitos. As Table 1-2 indicates, 333.99 acres or 24 percent of the City's non-AFRC land is occupied by single-family land uses.

Table 1-2
City Of Los Alamitos
Single-Family Residential Category by
Neighborhood and Acreage
January, 1997

Single-Family Residential NEIGHBORHOODS	Number of Lots and Units	ACREAGE
Country Square	38	7.61 acres
College Park North	114	16.87 acres
Greenbrook	181	36.54 acres
Old Dutch Haven	119	29.98 acres
Suburbia	101	20.13 acres
Highlands	425	104.24 acres
Carrier Row	312	74.07 acres
New Dutch Haven	162	31.53 acres
Woodcrest	38	8.14 acres
El Dorado Park Estates East	33	4.88 acres
TOTAL	1,523	333.99 acres

Source: Los Alamitos Planning Department, January 1997.

Limited Multiple-Family Residential Category

Two neighborhoods are designated as Limited Multiple-Family Residential. These neighborhoods are Old Town East and Parkewood. Table 1-3 displays the acreage of these areas. Limited Multiple-Family Residential land uses occupy 22.46 acres or 2 percent of the City's non-AFRC land.

Table 1-3
City Of Los Alamitos
Limited Multiple-Family Residential Category by
Neighborhood and Acreage
January, 1997

Limited Multiple-Family Residential NEIGHBORHOODS	Number of Units	Number of Lots	ACREAGE
Old Town East	77	42	10.85 acres
Parkewood	103	103	11.61 acres
TOTAL	180 units	145 lots	22.46 acres

Source: Los Alamitos Planning Department, January, 1997.

Table 1-4 lists the number of existing housing units by type as of January 1997 in Old Town East. As this table indicates, over 62 percent of the housing units in Old Town East are single-family and duplex residences. All of the units in the Parkewood neighborhood are “zero lot line” single family structures. “Zero lot line” structures share one or more common walls.

Table 1-4
Old Town East
Number of Existing Housing Units by Type
January, 1997

Old Town East Housing Unit Type	# of Existing Structures	# of Existing Units
Single Family Residential	16	16
2 Units	16	32
3 Units	1	3
4 Units	2	8
5 Units	1	5
6 or More Units	2	13
TOTALS	38	77

Source: Los Alamitos Planning Department, January, 1997.

Multiple-Family Residential Category

Four neighborhoods are designated as Multiple-Family Residential. Three of these neighborhoods are Old Town West, Apartment Row, and the Bungalows. Multiple-Family Residential uses comprise 171 acres or 12 percent of the City's non-AFRC land. The other type of residential land use in Los Alamitos Multiple Family Residential Category is the Royal Oak Mobile Home Park. According to a 1997 telephone survey, this 11.54-acre mobile home park contained 109 mobile home units.

Table 1-5 displays the acreage of neighborhood areas in the Los Alamitos Multiple Family Residential category.

Table 1-5
City Of Los Alamitos
Multiple-Family Residential Category by
Neighborhood and Acreage
January, 1997

Multiple-Family Residential NEIGHBORHOODS	Number of Units	Number of Lots	ACREAGE
Old Town West	364	131	39.64 acres
Apartment Row	1,775	380	106.00 acres
The Bungalows	37	1	1.84 acres
Royal Oak Mobile Home Park	109	2	11.54 acres
TOTAL	2,285 Units	514 Lots	159.02 acres

Source: Los Alamitos Planning Department, January, 1997.

All of the units in the Bungalows neighborhood are condominium units. Table 1-6 lists the number of existing housing units in Old Town West by type as of January, 1997. As this table indicates, over 64 percent of the housing units in Old Town West were found in structures containing four units or more.

Table 1-6
Old Town West
Number of Existing Units by Type
January, 1997

Old Town West Unit Type	# Existing of Structures	# of Existing Units
Single Family Residential	31	31
2 Units	25	50
3 Units	16	48
4 Units	31	124
5 Units	9	45
6 or More Units	11	66
TOTALS	123	364

Note: Old Town West also includes five vacant lots and one nonconforming structure (the American Legion building) for a total of 129 lots.

Source: Los Alamitos Planning Department, January, 1997.

Table 1-7 lists the number of existing housing units in Apartment Row by type as of January 1997. As this table indicates, over 86 percent of the housing units in Apartment Row were found in structures containing four units or more.

Table 1-7
Apartment Row
Number of Existing Units by Type
January, 1997
APARTMENT ROW

Apartment Row Unit Type	# of Existing Structures	# of Existing Units
Single Family Residential	25	25
2 Units	24	48
3 Units	56	168
4 Units	142	568
5 Units	50	250
6 or More Units	69	716
TOTALS	366	1,775

Note: Apartment Row includes four preschools, one church, one fire station, two parks, one GTE substation, three parking lots, two office buildings and one vacant lot.

Source: Los Alamitos Planning Department, January, 1997.

Residential Build Out and Population Potential for Old Town East, Old Town West, and Apartment Row

The Old Town East, Old Town West, and Apartment Row residential areas of the City currently contain some vacant and “under-utilized” parcels. The term “under-utilized” means that additional housing units are permitted on these parcels in accordance with the City’s current general plan and zoning standards.

Table 1-8 displays the build out and population potential for residential lots in the Old Town East, Old Town West, and Apartment Row residential areas. (Lots occupied with non-residential uses were not included in this analysis. Please refer to Appendix B for a listing of under-utilized non-residential lots.) As the table indicates, Old Town East could accommodate 24 additional housing units which could result in a population increase of 70 persons. Old Town West could accommodate 171 additional housing units which could result in a population increase of 495 persons. Apartment Row could accommodate 450 additional housing units which could result in a population increase of 1,305 persons. Overall, build out of these three residential areas could increase the City’s population by 1,870 persons.

Table 1-8
Build out and Population Potential for
Old Town East, Old Town West, and Apartment Row
January, 1997

	OLD TOWN EAST	OLD TOWN WEST	APARTMENT ROW
Maximized Lots	22 lots	51 lots	119 lots
# of Lots Allowing 1 additional unit	15 lots	18 lots	138 lots
# of Lots Allowing 2 additional units	1 lot	25 lots	61 lots
# of Lots Allowing 3 additional units	1 lot	26 lots	18 lots
# of Lots Allowing 4 additional units	1 lot	4 lots	25 lots
# of Lots Allowing 5 or more additional units	0 lots	4 lots	7 lots
Maximum number of new units that can be built:	24	171	450
Population increase based on 2.9 persons per household	70 persons	495 persons	1,305 persons

Note: Maximized lots are those that have either the maximum number of units permitted under density requirements or more than the maximum number of units permitted.

Source: Los Alamitos Planning Department, January, 1997.

Commercial Categories

The Commercial Categories are "Professional Office" and "Retail Business". The purpose of the Commercial Categories is to provide areas for uses which meet residents' needs for retail goods and personal services. Commercial uses are generally dispersed throughout Los Alamitos.

As of January 1997, commercial land uses comprised 137 acres or 9 percent of the City's non-AFRC land area. The following is a general description of the uses in the Commercial Categories:

- **Professional Office** - office uses that include law, insurance, medical, dental, engineering, and financial services. As of January 1997, office uses comprised 63 acres or 4 percent of the City's non-AFRC land area.
- **Retail Business** - commercial retail uses that include supermarkets, drugstores, personal services, restaurants, and facilities that offer a variety of retail products. The Los Alamitos Plaza is included in this category. General services such as auto-related sales and repair, nurseries, plumbing outlets, and home appliance stores are permitted subject to special review procedures. As of January 1997, retail business uses comprised 74 acres or 5 percent of the City's non-AFRC land area.

Planned Industrial Category

The Planned Industrial Category contains light industrial uses. The purpose of the Planned Industrial Category is to provide areas for light industrial and manufacturing uses. As of January 1997, the Planned Industrial Category comprised 248 acres or 18 percent of the City's non-AFRC land area. Examples of uses permitted in the Planned Industrial Category include manufacturing of aircraft parts and accessories, boat building, carpet cleaning plants, appliance repair and service, plastic fabrication, and printing plants. Other uses appropriate in the Industrial category are permitted subject to special review procedures.

During 1997, a survey was made of Los Alamitos' industrial areas. The following is a general description of these areas:

The Catalina Street/Kyle Street/Florista Street Industrial Area - The Catalina Street/Kyle Street/Florista Street industrial area contains some of the heaviest industrial uses in the City. These uses include Trend Offset Printing, a bathtub manufacturer (plastics and fiberglass), two automobile towing and storage yards, an aircraft windshield manufacturer, a machine shop, Safety-Kleen Hazardous Waste Transfer Facility, Barr Lumber's storage yard, and Briggeman Solid Waste Disposal and Storage Facility. The Los Alamitos Post Office is also located in the Catalina Street/Kyle Street/Florista Street Industrial Area. Currently, there are approximately 2.83 vacant acres in this area.

Southeast Corner of Cerritos Avenue and the Coyote Creek - This industrially-zoned area is occupied by a mixture of land uses: a church (Cottonwood Christian Center); light industrial retail shops fronting on Cerritos Avenue (glass repair, plumbing supplies, flooring supplies, and offices); two vacant lots, and an electrical substation. The two heavy industrial land uses in this area include Harbor Patterns (a manufacturing/fabricating facility for aircraft parts) and Collins Heavy Equipment Storage yard and repair. In addition, there is an automobile repair shop located at the southeast corner of Sausalito and Chestnut Streets.

Arrowhead Products (Katella Avenue) - Arrowhead Products is a large-scale parts manufacturer for the aerospace industry. Due to the chemicals and processes used by Arrowhead Products, it is classified as a heavy industrial land use.

Business/Industrial Parks - There are thirteen business/industrial parks in Los Alamitos. The land uses, visual appearance, and age characteristics of Los Alamitos' business/industrial parks vary. Most, if not all of the business/industrial park areas contain a mixture of office and industrial (light to medium) land uses and unit sizes. Some of the parks along Cerritos Avenue, (Alamitos Business Center and Los Alamitos Business Park South) contain retail uses. Business/industrial rental units in Los Alamitos range in size from smaller office and light industrial units (10,000 sq.ft. and less), to the mid-size light to heavy industrial user (10,000 sq.ft. to 20,000 square feet), and finally, to the larger scale industrial user (20,000 sq. ft. and more).

Special Use Categories

The Special Use Categories are comprised of "Community and Institutional facilities", "Open Area", and the "Armed Forces Reserve Center (AFRC)". As of January 1997, the Special Use Categories comprised 1,839 acres or 84 percent of the City's land area. Of the total area occupied by the Special Use Categories, the AFRC occupies 1,339 acres or 49 percent of the City's total land area. The following describes the uses found in the Special Use Categories:

- **Community and Institutional Facilities** - includes public and quasi-public uses such as the Civic Center, schools, hospitals, fire stations, parks, churches, utilities, and other similar uses. Vacant parcels retained as utility easements by Southern California Edison adjoin segments of the Coyote Creek Channel and the San Gabriel River.
- **Open Areas** - These include: 1) the 1.62-acre parcel located at the northeast corner of Cerritos Avenue and the Coyote Creek Channel; 2) the parcel located south of Katella Avenue and east of the Coyote Creek Channel; and, 3) the parcel located between the 605 Freeway and the Oak Middle School.
- **Armed Forces Reserve Center** - this 1,339-acre special study area is to be monitored continually for future development proposals in the event this military facility is discontinued.

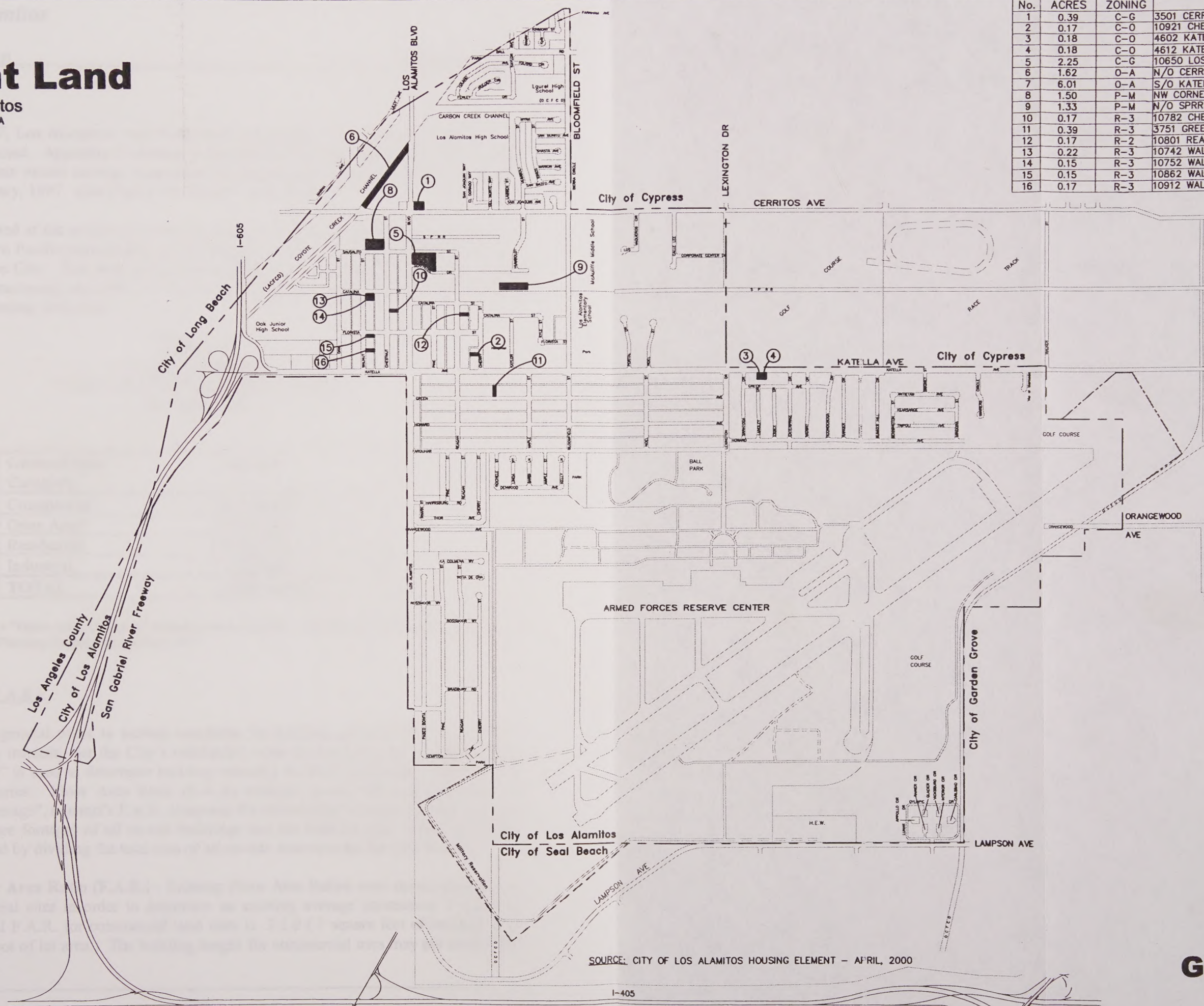
Vacant Land

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

----- City Boundary

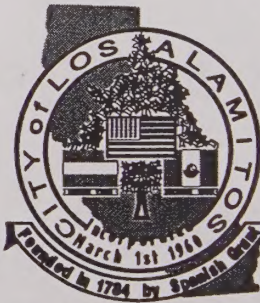
No.	ACRES	ZONING	LOCATION
1	0.39	C-G	3501 CERRITOS AVE.
2	0.17	C-O	10921 CHERRY STREET
3	0.18	C-O	4602 KATELLA AVENUE
4	0.18	C-O	4612 KATELLA AVENUE
5	2.25	C-G	10650 LOS ALAMITOS BLVD.
6	1.62	O-A	N/O CERRITOS AVE, W/O LOS ALAMITOS
7	6.01	O-A	S/O KATELLA AVE., W/O I-605
8	1.50	P-M	NW CORNER OF SAUSALITO & CHESTNUT STREET
9	1.33	P-M	N/O SPRR, E/O REAGAN STREET
10	0.17	R-3	10782 CHESTNUT STREET
11	0.39	R-3	3751 GREEN AVENUE
12	0.17	R-2	10801 REAGAN STREET
13	0.22	R-3	10742 WALNUT STREET
14	0.15	R-3	10752 WALNUT STREET
15	0.15	R-3	10862 WALNUT STREET
16	0.17	R-3	10912 WALNUT STREET



SOURCE: CITY OF LOS ALAMITOS HOUSING ELEMENT - APRIL, 2000



NOT TO SCALE



General Plan

FIGURE 1-2

Vacant Land

As of January, 1997, Los Alamitos' was 99.4% built out; of the City's total 2,752 acres, only 15.99 acres were vacant. Appendix C contains a detailed list of vacant parcels identified during 1997. Table 1-9 lists vacant acreage summaries by general plan category for the City of Los Alamitos as of January, 1997. (See Figure 1-2, Vacant Land Data)

The 2.83 acres located at the northwest corner of Sausalito and Chestnut Streets, and the parcel north of the Southern Pacific railroad line east of Reagan Street are the largest developable area of vacant land in the City. This land, designated as "Industrial" in the General Plan, could be developed with commercial, industrial, or special uses that meet the standards of the City's General Plan and Zoning Ordinance.

Table 1-9
City of Los Alamitos
Vacant Land by General Plan Category
January, 1997

General Plan Category	Acreage
Commercial	4.11 acres
Open Area*	7.63 acres
Residential	1.42 acres
Industrial	2.83 acres
TOTAL	15.99 acres

* Acreage given for the "Open Area Category" includes vacant parcels which have development potential.

Source: Los Alamitos Planning Department, January 1997.

Floor Area Ratio (F.A.R.)

State law requires general plans to include standards for building intensity for each land use category. Building intensity for the City's residential areas is stated in terms of units. "Floor Area Ratio (F.A.R.)" is used to determine building intensity for the Commercial, Industrial, and Special Use categories. Floor Area Ratio (F.A.R.) assesses on-site building intensity. As opposed to "lot coverage", a parcel's F.A.R. compares the relationship between the bulk and mass (total building square footage) of all on-site buildings and the total lot area. Floor Area Ratio (F.A.R.) is calculated by dividing the total area of all on-site structures by the total lot area.

Commercial Floor Area Ratio (F.A.R.) - Existing Floor Area Ratios were inventoried for Los Alamitos' commercial sites in order to determine an existing average commercial F.A.R. The average commercial F.A.R. for commercial land uses is .7:1.0 (.7 square feet of building floor area per 1 square foot of lot area.) The building height for commercial uses may not exceed five stories or sixty feet.

Planned Industrial Floor Area Ratio (F.A.R.) - Existing Floor Area Ratios were also inventoried for Los Alamitos' industrial sites in order to determine an existing average industrial F.A.R. The average F.A.R. for industrial land uses is .4:1.0 (.4 square feet of building floor area per 1 square foot of lot area.) The building height for industrial uses may not exceed five stories or sixty feet.

Special Use Floor Area Ratio (F.A.R.) - Existing Floor Area Ratios vary for uses located in Los Alamitos' Special Use Category. Uses in this category include parks, ball fields, the Civic Center, the Recreation and Youth Centers, and other public buildings. Based upon the intensity of these existing uses, the average F.A.R. in the Special Use Category is estimated to be .1:1.0 (.1 square feet of building floor area per 1 square foot of lot area.) The building height for uses in the Special Use Category currently does not exceed two stories.

2.0 General Plan/Zoning Consistency

State law requires cities to maintain consistency between their general plan and zoning ordinance. Since adopting its General Plan and its first zoning ordinance, the City of Los Alamitos has regularly updated both documents to meet current state requirements.

The City of Los Alamitos Zoning Ordinance, which contains provisions relating to subdivisions, zoning, development standards, and project review has the following zoning districts:

R1	Single-Family Residential District
R2	Limited Multiple-Family Residential District
R3	Multiple-Family Residential District
MH	Mobile Home District
CO	Commercial Professional Office District
CG	General Commercial District
PM	Planned Light Industrial District
OA	Open Area
CF	Community Facilities District

Existing zoning within the City is shown on Figure 1-3, "The Official Zoning Map of Los Alamitos."

In addition to the requirement of maintaining consistency between the general plan and zoning ordinance, cities are also required to keep harmony at the land use level on a parcel-by-parcel basis. In accordance with state law, each parcel of land has both a zoning district classification and a general plan land use category.

Zoning

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

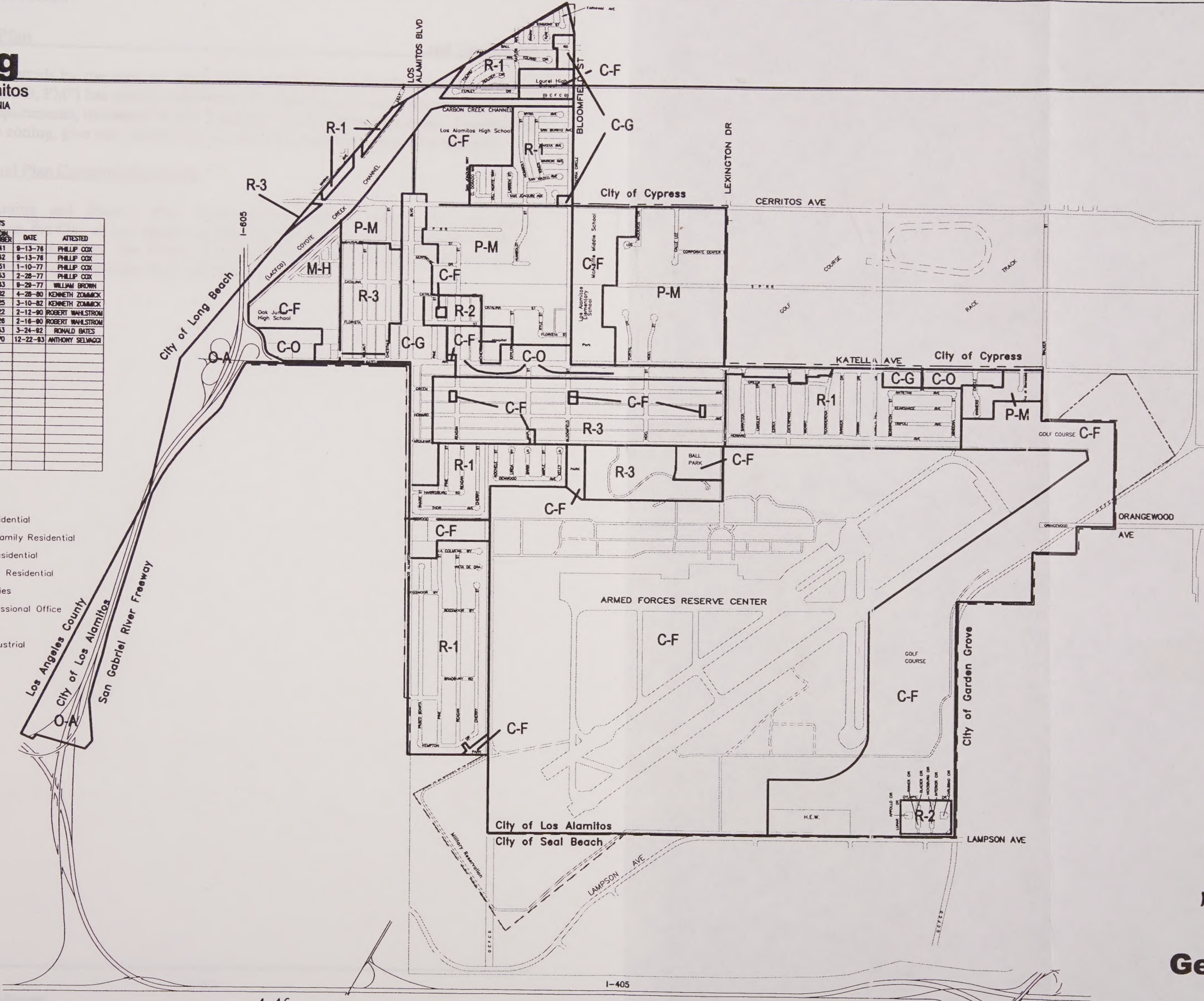
LEGEND

City Boundary

AMENDMENTS					
ORDINANCE NUMBER	DATE	ATTESTED	ORDINANCE NUMBER	DATE	ATTESTED
168	2-17-68	DALE KROESEN	341	8-13-78	PHILLIP COX
172	8-8-68	DALE KROESEN	342	8-13-78	PHILLIP COX
183	10-20-68	DALE KROESEN	351	1-10-77	PHILLIP COX
191	3-10-70	DALE KROESEN	353	2-28-77	PHILLIP COX
196	5-12-70	WILLIAM BROWN	363	8-29-77	WILLIAM BROWN
208	11-9-70	WILLIAM BROWN	402	4-28-80	KENNETH ZOMMICK
213	1-25-71	WILLIAM BROWN	425	3-10-82	KENNETH ZOMMICK
215	1-22-71	WILLIAM BROWN	522	2-12-80	ROBERT WAHLSTROM
221	8-28-71	WILLIAM BROWN	526	2-16-80	ROBERT WAHLSTROM
227	10-28-71	WILLIAM BROWN	553	3-24-82	RONALD BATES
234	2-28-72	WILLIAM BROWN	570	12-22-83	ANTHONY SELVAGGI
237	3-13-72	WILLIAM BROWN			
246	8-28-72	CHARLES LONG			
251	8-11-72	CHARLES LONG			
253	10-24-72	CHARLES LONG			
258	4-2-73	CHARLES LONG			
264	7-23-73	WILLIAM BROWN			
265	7-23-73	WILLIAM BROWN			
283	6-10-74	PHILLIP COX			
294	1-27-75	PHILLIP COX			
308	8-11-75	TOM HOWRICHHAUSEN			
323	1-12-76	PHILLIP COX			
324	1-12-76	PHILLIP COX			
327	2-8-76	PHILLIP COX			
340	6-28-76	PHILLIP COX			

Zone Boundary

- R-1 Single Family Residential
- R-2 Limited Multiple Family Residential
- R-3 Multiple Family Residential
- M-H Mobile Home Park Residential
- C-F Community Facilities
- C-O Commercial-Professional Office
- C-G General Commercial
- P-M Planned Light Industrial
- O-A Open Area



NOT TO SCALE



General Plan

FIGURE 1-3

Zoning classifies parcels by use such as residential, commercial, industrial, etc. Each zoning district (e.g., "R1, CO, PM") has specific permitted land uses, density requirements, required set backs, parking requirements, minimum lot size standards, and height requirements. General Plan categories, unlike zoning, give only general use and density ranges for a particular category.

Zoning and General Plan Compatibility Matrix

Table 1-10, "Zoning and General Plan Compatibility Matrix," depicts the consistency relationship between the City of Los Alamitos' nine zoning districts and the General Plan's six general plan land use categories. The Matrix is used to determine the compatibility of a zoning district to a corresponding general plan land use category.

Table 1-10
Zoning and General Plan Compatibility Matrix
City of Los Alamitos
1997

ZONING DISTRICT	GENERAL PLAN LAND USE CATEGORIES								
	RESIDENTIAL			COMMERCIAL		INDUSTRIAL	SPECIAL USE		
	Single Family 1-6 du/acre	Limited Multi-Family 6-20 du/acre	Multi-Family	Prof. Office	General Commercial	Planned Industrial	Open Area	Comm. Facilities	AFRC
<u>Residential</u> R1 R2 R3 MHP	X	X	X X						
<u>Commercial</u> CO CG				X	X X				
<u>Industrial</u> PM						X			
<u>Open Area</u> OA							X	X	X
<u>Community Facilities</u> CF							X	X	X

"X" denotes zones that are compatible with the noted General Plan designation

Population Characteristics

The following information pertains to Los Alamitos' population and housing characteristics. The majority of this information was obtained from the 1990 Census. When available, more recent data from the California Department of Finance, Southern California Area Governments (SCAG), and the Los Alamitos Community Development Department was utilized.

General Population Information

According to the Census, Los Alamitos had a population of 11,676 persons in 1990. As of January 1, 1995, the California Department of Finance estimated Los Alamitos' population to be 12,425 persons.

As illustrated in Table 1-11, Los Alamitos' population increased by 1.3 percent between 1980 and 1990. This growth rate is significantly less than the growth rate experienced in surrounding jurisdictions and Countywide. Los Alamitos' low growth rate can be attributed to the City's "built out" character. As of January 1996, there were only 1.42 vacant acres of residentially zoned land in the City.

Table 1-11
Population Trends:
Los Alamitos and Surrounding Jurisdictions
1980-1990

JURISDICTION	1980 (a)	1990 (b)	Increase	(%)
Anaheim	219,311	266,406	+47,095	+21.5%
Costa Mesa	82,562	96,357	+13,975	+16.7%
Cypress	40,391	42,655	+2,264	+5.6%
Hunt. Beach	170,505	181,519	+11,014	+6.5%
LOS ALAMITOS	11,529	11,676	+ 147	+1.3%
Santa Ana	203,713	293,724	+90,011	+44.2%
Orange Co.	1,932,709	2,410,556	+477,847	+24.7%

Source: (a) U.S. Department of Commerce, Bureau of the Census, 1980 and 1990 Census Reports.

Table 1-12 displays Los Alamitos' and surrounding jurisdictions' population trends for 1990 to 1995.

Table 1-12**Population Trends:****Los Alamitos and Surrounding Jurisdictions****1990-1995**

JURISDICTION	1990	1995	INCREASE (%)	
Anaheim	266,406	296,497	+30,091	11.3%
Costa Mesa	96,357	103,823	+ 7,466	7.7%
Cypress	42,655	46,963	+ 4,308	10.1%
Hunt. Beach	181,519	189,795	+ 8,276	4.6%
LOS ALAMITOS	11,676	12,425	+ 749	6.4%
Santa Ana	293,724	311,491	+17,767	6.0%
Orange County	2,410,556	2,641,355	+230,799	9.6%

Source: (a) U.S. Department of Commerce, Bureau of the Census, 1990 Census Reports; California Department of Finance data.

Age Characteristics

Table 1-13 shows the City's age characteristics. During the past decade, there was a decline in the number of persons for all categories under age 24 years, except for the age 0-5 years category, which increased by 3.2 percent. This trend may be a result of younger families moving into the area with small children. For this same time period, there was an increase in the number of persons for all categories over age 24 years, except for the age 45-54 years category, which declined by 15 percent. It is apparent from the 1990 data the majority of Los Alamitos' residents have evolved into "empty nesters" (i.e., households with grown children).

Table 1-13
City Of Los Alamitos
Age Composition: 1980 - 1990

Age Range	1980 # Persons (%)	1990 # Persons (%)	1980-90 # and % Chg
0-5	834 (7.2%)	905 (7.6%)	+26 (+3.2%)
6-13	1,301 (11.3%)	1,242 (10.6%)	-59 (-4.5%)
14-17	910 (7.9%)	624 (5.3%)	-286 (-31.4)
18-20	683 (5.9%)	505 (4.3%)	-178(-26.1%)
21-24	1,015 (8.8%)	827 (7.1%)	-188(-18.5%)
25-34	1,899 (16.5%)	2,358 (20.1%)	+459(+22.8%)
35-44	1,398 (12.1%)	1,786 (15.3%)	+388(+26.3%)
45-54	1,404 (12.2%)	1,193 (10.4%)	-211(-15%)
55-64	1,118 (9.7%)	1,021 (8.9%)	-97(-8.2%)
65+	967 (8.4%)	1,215 (10.4%)	+248(+25.6%)
TOTAL	11,529 (100%)	11,676 (100%)	+147(1.3%)
MALE	5,509 (47.8%)	5,620 (48.1%)	+111(+2%)
FEMALE	6,020 (52.2%)	6,056 (51.9%)	+36(+.6%)
Median Age	30	31	

Source: U.S. Department of Commerce, Bureau of Census, 1980 and 1990 Census Reports.

Ethnic Characteristics

Table 1-14 depicts 1980 and 1990 Census data for City-wide ethnic characteristics. During 1980, the City's ethnic proportions were 89.8 percent White; 1.4 percent Black; .5 percent American Indian; 3.8 percent Asian Pacific and 5.0 percent Other. Persons of Hispanic origin made up 12.1 percent of the City's population. Census ethnic data for 1990 shows the largest shift in the City's population was from the White sector (a 13 percent reduction in Whites), while the other significant change occurred in the "Other" category which increased by 8 percent. The City's Hispanic population remained stable, while the Black and Asian ethnic groups, although a small percentage of the City's population, both doubled in size.

Table 1-14
City Of Los Alamitos
Ethnic Composition: 1980 - 1990

Race and Ethnicity	1980 Population		1990 Population	
	Total	%	Total	%
White*	10,293	89.8	9,040	77.0
Black	163	1.4	337	2.9
American Indian	53	.5	45	.4
Asian/Pacific Is.	432	3.8	781	6.7
Other	584	5.0	1,473	13.0
Total	11,529	100.0	11,676	100.0
Spanish/Hisp. Origin (a)	1,398	12.1	1,460	13.0

(a) Note: Persons of Spanish/Hispanic Origin are included in the "White" category.

Source: U. S. Department of Commerce, Bureau of Census, 1980 and 1990 Census Report.

Household Characteristics

The following tables display information pertaining to Los Alamitos' household characteristics.

Table 1-15
Household Size
Los Alamitos and Surrounding Jurisdictions
1980-1990

JURISDICTION	1980 PERSONS PER HOUSEHOLD	1990 PERSONS PER HOUSEHOLD
Anaheim	2.71	2.99
Costa Mesa	2.46	2.51
Cypress	3.18	2.98
Hunt. Beach	2.78	2.62
LOS ALAMITOS	2.81	2.74*
Santa Ana	3.12	4.0
Orange County	2.78	2.87

* As of January 1, 1995, the California Department of Finance estimated Los Alamitos to have 2.9 persons per household.

Source: U.S. Department of Commerce, Bureau of the Census, 1990 Census Reports; California Department of Finance data.

Table 1-16
Tenure of Housing Stock
Los Alamitos and Surrounding Jurisdictions
1990

JURISDICTION	TOTAL OCCUPIED UNITS	OWNER OCCUPIED UNITS		RENTER OCCUPIED	
		#	%	#	%
Anaheim	87,588	43,123	49.2%	44,465	50.8%
Costa Mesa	37,467	15,051	40.2%	22,416	59.8%
Cypress	14,279	9,911	69.4%	4,368	30.6%
Hunt. Beach	68,879	40,284	58.5%	28,595	41.5%
LOS ALAMITOS	4,113	1,778	43.2%	2,335	56.8%
Santa Ana	71,611	34,579	48.3%	37,032	51.7%
Orange County	827,066	496,782	60.1%	330,284	39.9%

Source: (a) U.S. Department of Commerce, Bureau of the Census, 1990 Census Reports; California Department of Finance data.

Table 1-17
1990 Owner/Renter Ratios by Housing Type
City Of Los Alamitos

	#Owner	%Owner	#Renter	%Renter	TOTAL
1 Unit. Det.	1,513	80%	374	20%	1887
1 Unit Att.	49	18%	228	82%	277
2 Unit Det.	8	6%	108	93%	116
3-4	37	5%	758	95%	795
5-9	11	2%	510	98%	521
10-19	18	8%	202	92%	220
20-49	29	18%	136	82%	165
50 or more	0		0		
Mobile Home	103	95%	6	5%	109
Other	10	43%	13	57%	23
Total	1,778*	43.2%	2,335	56.8%	4,113*

* Figures are for occupied unit only.

Source: 1990 Federal Census of Population City and County Profiles

Housing Stock Characteristics

As of January 1990, Los Alamitos' 11,676 residents were housed in 4,420 houses, apartments, condominiums, and mobile homes. In 1995, there was 4,474 housing units in the City, an increase of 54 housing units. The average Los Alamitos household consisted of 2.74 persons in 1990 and 2.9 persons in 1995.

Tables 1-18 and 1-19 display the City's housing stock by type for years 1980-90 and 1990-95.

Table 1-18
City Of Los Alamitos
Housing Stock Inventory
1980 and 1990

	1980 Total	% of Total	1990 Total	% of Total	1980-90 # Chg	1980-90 % Chg
Single Family						
Detached	2,203	54.0%	1,967	44.5%	-236	-10.7%
Attached	261	6.4 %	295	6.7%	+ 34	+13.0%
2-4 Units	858	21.0 %	991	22.4%	+133	+15.5%
5+	658	16.1 %	1,050	23.8%	+392	+59.6%
Mobile Homes	101	2.5 %	117	2.6%	+ 16	+15.8%
Totals	4,081	100%	4,420	100%	+339	

Source: Department of Commerce, Bureau of Census, 1980 and 1990.

Table 1-19
City Of Los Alamitos
Housing Stock Inventory
1990 and 1995

	1990 Total	% of Total	1995 Total	% of Total	1990-95 # Chg	1990-95 % Chg
Single Family						
Detached	1,967	44.5%	1,956	43.7%	- 11	- .6%
Attached	295	6.7%	355	7.9%	+ 60	+ 20.3%
2-4 Units	991	22.4%	978	21.9%	- 13	- 1.3%
5+	1,050	23.8%	1,069	23.9%	+ 19	+ 1.8%
Mobile Homes	117	2.6%	116	2.6%	- 1	- .9%
Totals	4,420	100%	4,474	100%	+54	

Source: Department of Commerce, Bureau of Census, 1990 and Jan. 1, 1995 California Department of Finance Data.
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APPENDIX A
CITY OF LOS ALAMITOS
RESIDENTIAL NEIGHBORHOOD DESCRIPTIONS
January, 1997

The City of Los Alamitos has sixteen distinct residential neighborhoods. Please refer to Figure 1-4 for the location of these neighborhoods. They are as follows:

Country Square Neighborhood
College Park North Neighborhood
Greenbrook Neighborhood
Old Town West Neighborhood
Old Town East Neighborhood
Old Dutch Haven Neighborhood
Suburbia Neighborhood
Highlands Neighborhood
Parkewood Neighborhood
Apartment Row Neighborhood
Carrier Row Neighborhood
New Dutch Haven Neighborhood
Royal Oak Park Neighborhood
Woodcrest Neighborhood
El Dorado Park Estates East Neighborhood (Los Alamitos)
The Bungalows Neighborhood

The following information describes these neighborhoods:

#1) Country Square Neighborhood:

The *Country Square Neighborhood* comprises the most northern tip of the City. It is bounded by the cities of Cypress and Long Beach to the north and west; Bloomfield Street to the east; and Ball Road to the south.

Land Use Characteristics: The *Country Square Neighborhood* comprises approximately 7.61 acres and contains 38 single-family homes constructed in the early 1960's. The area's current General Plan Land Use Designation is "Single Family Residential" and the zoning is R1 (Single Family Residential).

#2) College Park North Neighborhood:

The *College Park North Neighborhood* is bounded by the City of Long Beach and Ball Road to the north; Bloomfield Street to the east; Carson Creek to the south; and Coyote Creek to the west.

Land Use Characteristics: The *College Park North Neighborhood* comprises approximately 16.87 acres and contains 114 single-family residential homes. The pocket park, Susan Stansbury Park, is located in the *College Park North Neighborhood*. The majority of the homes were built during the 1970s. The current General Plan Land Use Designation for the *College Park North Neighborhood* is "Single Family Residential" and the zoning is R1 (Single Family Residential).

#3) Greenbrook Neighborhood:

The *Greenbrook Neighborhood* is bounded by Carson Creek to the north; Bloomfield Street to the east; Cerritos Avenue to the south; and Los Alamitos High School to the west.

Land Use Characteristics: The *Greenbrook Neighborhood* comprises approximately 36.54 acres and contains 181 single-family residential homes. The majority of the homes were built during the 1960s. The area's current General Plan Land Use Designation is "Single Family Residential" and the zoning is R1 (Single Family Residential).

#4) Old Town West Neighborhood:

The *Old Town West Neighborhood* is generally bounded on the north by Sausalito Avenue; on the east by Oak Street; on the south by commercial uses fronting on Katella Avenue, and on the west by commercial uses fronting on Los Alamitos Boulevard.

Land Use Characteristics: The *Old Town West Neighborhood* comprises approximately 39.64 acres and contains a mixture of multiple family and single family residential homes. There is a total of 364 units in the *Old Town West Neighborhood*. The age of the structures in the *Old Town West Neighborhood* range from early 1900's vintage to new condominium and townhouse complexes. The area is slowly changing from a single-family residential neighborhood to a multiple family residential neighborhood.

#5) Old Town East Neighborhood:

The *Old Town East Neighborhood* is generally bounded on the north by Catalina Street; on the east by Cherry Street; on the south by Florista Street; and on the west by commercial uses fronting on Los Alamitos Boulevard.

Land Use Characteristics: The *Old Town East Neighborhood* comprises approximately 10.85 acres and contains a total of 77 multiple family and single family residential homes. The age of the structures ranges from early 1930's vintage to new condominium and townhouse complexes. The area is changing from a single-family residential neighborhood to a multiple family residential neighborhood. The area's current General Plan Land Use Designation is "Limited Family Residential" (6 to 20 du/acre) and the zoning is R-2 (1 unit per 3000 sq. ft.).

#6) Old Dutch Haven Neighborhood:

The *Old Dutch Haven Neighborhood* is generally bounded on the north by Farquhar Ave; on the east by the Armed Forces Reserve Center; on the south by Orangewood Avenue, and on the west by Los Alamitos Boulevard and commercial uses fronting on Los Alamitos Boulevard.

Land Use Characteristics: The *Old Dutch Haven Neighborhood* comprises approximately 29.98 acres and contains 119 single-family residential homes. Typically, the majority of the homes have been built since 1959. The area's current General Plan Land Use Designation is "Single Family Residential" and the zoning is R1 (Single Family Residential)

#7) Suburbia Neighborhood:

The *Suburbia Neighborhood* is generally bounded on the north by Farquhar Ave; on the east by Little Cottonwood Park and the Armed Forces Reserve Center's housing area; on the south by the Armed Forces Reserve Center; and on the west by a flood control channel.

Land Use Characteristics: The *Suburbia Neighborhood* comprises approximately 20.13 acres and contains 101 single-family residential homes. Typically, the homes have been built since 1966. The area's current General Plan Land Use Designation is "Single Family Residential" and the zoning is R1 (Single Family Residential)

#8) Rossmoor Highlands Neighborhood:

The *Rossmoor Highlands Neighborhood* is generally bounded on the north by St. Hedwig Catholic Church; on the east by the Armed Forces Reserve Center; on the south by the Armed Forces Reserve Center; and on the west by Los Alamitos Boulevard.

Land Use Characteristics: The *Highlands Neighborhood* comprises approximately 104.24 acres and contains 425 single-family homes built in the early 1960's. The area's current General Plan Land Use Designation is "Single Family Residential" and the zoning is R1 (Single Family Residential)

#9) Parkewood Neighborhood:

The *Parkewood Neighborhood* is generally bounded on the north by the Armed Forces Reserve Center; on the east by Lunar Drive; on the north by Armed Forces Reserve Center; on the south by Lampson Avenue; and on the west by the Armed Forces Reserve Center.

Land Use Characteristics: The *Parkewood Neighborhood* comprises approximately 11.61 acres and contains 103 homes built in 1970. The homes in the *Parkewood Neighborhood* are attached homes facing onto private courtyards and common greenbelts. The area's current

General Plan Land Use Designation is "Limited Family Residential" (6 to 20 du/acre) and the zoning is R-2 (1 unit per 3000 sq. ft.).

#10) Apartment Row Neighborhood:

The *Apartment Row Neighborhood* is generally bounded on the north by commercial uses fronting on Katella Boulevard; on the west by commercial uses fronting on Los Alamitos Boulevard; on the south by Farquhar Avenue and the Armed Forces Reserve Center, and on the east by Lexington Drive.

Land Use Characteristics: The *Apartment Row Neighborhood* comprises approximately 106 acres and contains 25 single-family dwelling units, the first of which were constructed in the 1920's, and 380 duplexes and multiple family dwellings constructed in the 1970's. Labourdette Park is located in the *Apartment Row Neighborhood*.

#11) Carrier Row:

The *Carrier Row Neighborhood* is generally bounded on the north by Katella Avenue; on the east by the New Dutch Haven Neighborhood; on the south by the AFRC Golf Course; and on the west by Lexington Drive.

Land Use Characteristics: The *Carrier Row Neighborhood* comprises approximately 74.07 acres and contains 312 single-family residential homes. This neighborhood contains some of the City's oldest homes. Most of the homes were built in the mid-1950's. The area's current General Plan Land Use Designation is "Single Family Residential" and the zoning is R1 (Single Family Residential).

#12) New Dutch Haven Neighborhood:

The *New Dutch Haven Neighborhood* is generally bounded on the north by commercial uses fronting on Katella Avenue; on the east by the AFRC Golf Course and "Winner's Circle" commercial/industrial development; on the south by the Armed Forces Reserve Center; and on the west by the Carrier Row Neighborhood.

Land Use Characteristics: The *New Dutch Haven Neighborhood* comprises approximately 31.53 acres and contains 162 single-family homes built in the early 1960's. The area's current General Plan Land Use Designation is "Single Family Residential" and the zoning is R1 (Single Family Residential).

#13) Royal Oak Park:

The *Royal Oak Park Neighborhood* is the City's only mobile home park. The mobile home park is situated on 11.54 acres and was developed in 1964. As of 1997, the park contained 109 mobile homes. The majority of the park's residents are senior citizens.

#14) Woodcrest Neighborhood:

The *Woodcrest Neighborhood* is bounded by Los Alamitos High School to the north; the Greenbrook Neighborhood to the east; Cerritos Avenue to the south; and Los Alamitos High School to the west.

Land Use Characteristics: The *Woodcrest Neighborhood* comprises approximately 8.14 acres and contains 38 single-family residential homes. The majority of the homes were built during the late 1960's. The area's current General Plan Land Use Designation is "Single Family Residential" and the zoning is R1 (Single Family Residential).

#15) El Dorado Park Estates East Neighborhood:

The *El Dorado Park Estates East Neighborhood* is bounded by the City of Long Beach to the north and west; and the Coyote Creek to the south and east.

Land Use Characteristics: The *El Dorado Park Estates East Neighborhood* comprises approximately 4.88 acres and contains 33 single-family homes built in the late 1960's and early 1970's. The area's homes are exceptionally well maintained and attractive. The area's current General Plan Land Use Designation is "Single Family Residential" and the zoning is R1 (Single Family Residential).

#16) The Bungalows Neighborhood:

The *Bungalows Neighborhood* is bounded by the City of Long Beach to the north and west; and the Coyote Creek to the south and east.

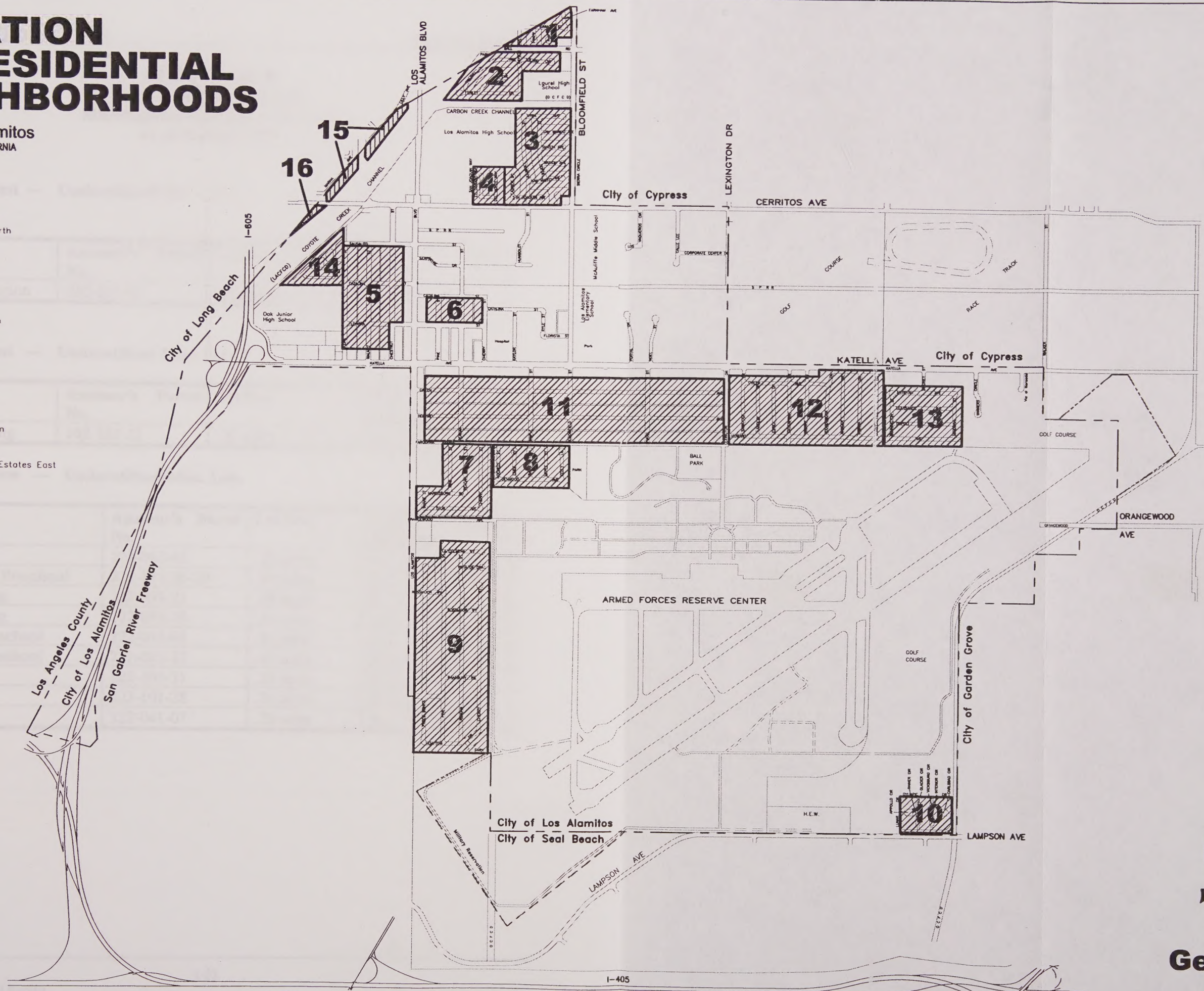
Land Use Characteristics: The *Bungalows Neighborhood* comprises approximately 1.84 acres and contains 37 attached single family homes built in 1996. The area's current General Plan Land Use Designation is "Multiple Family Residential" (20 to 30 dwelling units to the acre) and the zoning is R-3 (Multiple Family Residential -1 unit per 1,750 sq. ft.).

LOCATION OF RESIDENTIAL NEIGHBORHOODS

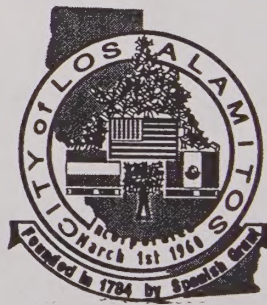
City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

- City Boundary
- 1 Country Square
- 2 College Park North
- 3 Greenbrook
- 4 Woodcrest
- 5 Old Town West
- 6 Old Town East
- 7 Old Dutch Haven
- 8 Suburbia
- 9 Highlands
- 10 Parkewood
- 11 Apartment Row
- 12 Carrier Row
- 13 New Dutch Haven
- 14 Royal Oak Park
- 15 El Dorado Park Estates East
- 16 Bungalows



NOT TO SCALE



General Plan

FIGURE 1-4

APPENDIX B
UNDER-UTILIZED LOTS
Miscellaneous Uses (not residential)
As of January, 1997

▪ **Old Town West --- Underutilized Misc. Lots**

Facility	Assessor's Parcel No.	Lot Size	Max. Units Permitted
American Legion	242-201-01	.33 acres	R-3 --- 8 units

▪ **Old Town East --- Underutilized Misc. Lots**

Facility	Assessor's Parcel No.	Lot Size	Max. Units Permitted
Office building	242-181-23	.30 acres	R-2 --- 7 units

▪ **Apartment Row --- Underutilized Misc. Lots**

Facility	Assessor's Parcel No.	Lot Size	Max. Units Permitted
GTE	222-062-42	.20 acres	R-3 --- 5 units
Country Lane Preschool	222-111-26-29	.84 acres	R-3 --- 20 units
Office building	222-093-21	.20 acres	R-3 --- 5 units
Office building	222-093-20	.20 acres	R-3 --- 5 units
Rossmoor Preschool	222-093-01	.41 acres	R-3 --- 10 units
Rossmoor Preschool	222-093-22	.41 acres	R-3 --- 10 units
Parking lot	222-101-31	.28 acres	R-3 --- 6 units
Parking lot	222-101-28	.20 acres	R-3 --- 4 units
Parking lot	222-041-07	.29 acres	R-3 --- 7 units

APPENDIX C

VACANT LOTS

VACANT LOTS Commercially-Zoned Land As of January, 1997

Address	Parcel No.	Zoning	Parcel Size
3501 Cerritos	242-262-08	C-G	.39 acre
3562 Cerritos	242-241-05	C-G	.94 acre
10921 Cherry	242-173-18	C-O	.17 acre
4602 Katella	222-171-02	C-O	.18 acre
4612 Katella	222-171-01	C-O	.18 acre
10650 Los Alamitos	242-243-03	C-G	2.25 acres
TOTAL			4.11 acres

VACANT LOTS Open Space-Zoned Land As of January, 1997

Address	Parcel No.	Zoning	Parcel Size
N. of Cerritos/W. of Los Alamitos	242-261-07	O-A	1.62 acres
S. of Katella/ W. of I-605	86-511-11	O-A	6.01 acres
TOTAL			7.63 acres

VACANT LOTS Industrially-Zoned Land As of January, 1997

Address	Parcel No.	Zoning	Parcel Size
NW corner of Sausalito and Chestnut Streets	242-222-11 (portion)	P-M	1.5 acres
N. of SPRR/E. of Reagan	242-242-11	P-M	1.33 acres
TOTAL			2.83 acres

VACANT LOTS
Residentially-Zoned Land
As of January, 1997

Address	Parcel No.	Zoning	Parcel Size	Potential Dwelling Units Under Current Zoning Standards
10782 Chestnut	242-193-05	R-3	.17 acre	4 units
3751 Green	222-101-24	R-3	.39 acre	9 units
10801 Reagan	242-183-03	R-2	.17 acre	2 units
10742 Walnut	242-192-01	R-3	.22 acre	5 units
10752 Walnut	242-192-02	R-3	.15 acre	3 units
10862 Walnut	242-202-01	R-3	.15 acre	3 units
10912 Walnut	242-202-06	R-3	.17 acre	4 units
TOTAL			1.42 acres	30 units

CHAPTER 2 - CONSERVATION ELEMENT

Background Technical Report

INTRODUCTION

Scope and Purpose of the Conservation Element

The Conservation Element addresses the conservation of natural resources located within the City of Los Alamitos. Its intent is to protect and maintain the City's natural and cultural resources and to prevent their wasteful exploitation and destruction. Government Code Section 65302(d) mandates that, to the extent applicable, issues regarding natural resources must be addressed in the general plan. Resources considered in this section include water, soils, biotic, cultural, air, and energy.

Organization of the Conservation Element

The Conservation Element of the *Los Alamitos 2010 General Plan* is comprised of two documents, the Background Technical Report (BTR) and the policy document. The BTR contains the baseline data and information necessary to support the goals, policies, and implementation programs contained in the policy document.

1.0 Water Resources

This section of the conservation element addresses the sources, quantity and quality of water resources for the Los Alamitos area. Additional information pertaining to Los Alamitos water purveyors and supply infrastructure is provided in the Circulation Element.

Water Sources and Quantity

Southern California Water Company owns and operates the extensive network of water lines that serves Los Alamitos. Since the early 1960s, the Southern California Water Company has operated three water systems in the West Orange County area. The Company's West Orange County service area encompasses the cities of Los Alamitos, Cypress, and Stanton; Rossmoor, and unincorporated areas of Orange County.

As of April 1995, Southern California Water Company's water system supply sources included a mixture of groundwater from the Santa Ana River Basin and treated surface water purchased from the Metropolitan Water District of Southern California (MWDSC). The system has historically met 80 percent of its total water demand by pumping water from groundwater sources. In 1995, 86 percent of the system's demand was met through wells.¹

¹ "Engineering Report for Consideration of the Permit Application from The Southern California Water Company, West Orange County System, Serving the Cities of Los Alamitos, Cypress, Stanton and Environs", dated April 5, 1996.

Currently, all of the Southern California Water Company's domestic water sources are located in the cities of Los Alamitos, Cypress, and Stanton, and unincorporated Rossmoor. The wells are within the Santa Ana River Basin and are managed by the Orange County Water District (OCWD). The total pumping capacity of the wells is 20 cubic feet per second (cfs). The following wells pump directly into the Los Alamitos distribution system:

Baskerville No. 2 - This well is not housed and is located near the crossing of Baskerville and Shakespeare Streets in the unincorporated area of Rossmoor. The well is 500 feet deep with a 16-inch diameter casing. The highest perforations are at 386 feet below ground. The well is gravel-packed with a 40-foot sanitary seal and surface sealed. The well is equipped with a 700-gpm submersible pump, driven by a 75-hp motor.

Bloomfield - This well is housed in a block wall building located at 10293 Bloomfield Street in Los Alamitos. The well is 690 feet deep with a 20-inch diameter casing reducing to 16 inches. The highest perforations are at 460 feet below ground. The well is gravel-packed with a 51-foot sanitary seal and surface sealed. The well is equipped with a 1,554-gpm oil lubricated vertical turbine pump, driven by a 200-hp electrical motor.

Cherry No. 2 - This well is not housed and is located at 10941 Cherry Avenue in Los Alamitos. The well is 306 feet deep with a 10-inch diameter casing. The highest perforations are at 266 feet below ground. The well is of cable tool type construction with no sanitary seal, but surface sealed. The well is not equipped and is inactive.

Cherry No. 3 - The well is not housed and located at 10941 Cherry Avenue in Los Alamitos. The well is 632 feet deep with a 12-inch diameter casing. The highest perforations are at 346 feet below ground. The well is of cable tool type construction with no sanitary seal, but it is surface sealed. The well is equipped with a 375-gpm oil lubricated vertical turbine pump, driven by a 40-hp electrical motor.

Florista No. 1 - This well is not housed and located at 10852 Cherry Street in Los Alamitos. The well is 700 feet deep with a 18-inch diameter casing. The highest perforations are at 300 feet below ground. The well is gravel-packed with a 75-foot sanitary seal and surface sealed. The well is equipped with a 2200-gpm water lubricated vertical turbine pump, driven by a 100-hp electrical motor.

Howard - This well is housed in a wood frame building located at 4401 Howard Street in Los Alamitos. The well is 520 feet deep with 14-inch diameter casing. The highest perforations are at 386 feet below ground. The well is of cable tool type construction with no sanitary seal, but it is surface sealed. The well is equipped with a 900-gpm oil lubricated vertical turbine pump driven by a 100-hp electrical motor.

Montecito - This well is not housed and located at 3271 Copa de Oro Drive in the unincorporated area of Rossmoor. The well is 720 feet deep with a 10-inch diameter casing. The highest perforations are at 257 feet below ground. The well is gravel-packed with a 24-foot sanitary seal and surface sealed. The well is equipped with a 500-gpm water lubricated vertical turbine pump, driven by a 60-hp electrical motor. The well is inactive.

Yellowtail - This well is not housed and located at 3182 Yellowtail Drive in the unincorporated area of Rossmoor. The well is 812 feet deep with a 16-inch diameter casing. The highest perforations are at 260 feet below ground. The well is gravel-packed with a 282-foot sanitary seal and surface sealed. The well is equipped with an 875-gpm oil lubricated vertical turbine pump, driven by a 40-hp electrical motor. This well is located in the unincorporated area of Rossmoor.

Water Quality and Uses

The Federal Safe Drinking Water Act of 1974 and its 1986 amendments are intended to ensure the quality of our water supplies. The federal government, through the U.S. Environmental Protection Agency (EPA), sets standards and monitoring requirements for water utilities. California, through its Department of Health Services, has the option of adopting the federal standards or setting more stringent ones. These standards are set after considerable research and data gathering as well as analysis by health experts. There are nearly 50 standards in California for compounds that may be found in drinking water and more standards are expected in the next few years.

Testing of the domestic water supply is performed by each water company for various constituents, substances, and physical agents which the federal or state government has determined allowable maximum contaminant levels (MCL). Southern California Water Company tests quarterly to monitor radioactivity and chemicals. The Company also performs weekly tests that measure residual chlorine, pathogenic (disease-causing) bacteria, and examine the odor and clarity.

Orange County Water District, on behalf of the Regional Water Quality Control Board, monitors the water quality of storm drainage runoff water from various locations. The storm drainage runoff from Los Alamitos is monitored to ensure it does not exceed the maximum contaminant levels established by the U.S. EPA for potable water. Although there are constituents which exceeded MCL, such as iron, zinc, total coliform and fecal coliform, this water is not used for human consumption and is therefore untreated.

Orange County Public Works officials are responsible for assisting cities required to comply with the National Pollutant Discharge Elimination System (NPDES) permit process. Los Alamitos is one of the Phase 3 cities required to comply with this Federal legislation. To comply, the City prepared documentation on City drainage area boundaries, annual rainfall, existing water quality, existing water flow patterns, existing storm water management practices, and has established a storm water runoff-monitoring program.

In 1993, to further protect groundwater resources from pollution, Los Alamitos responded to State and Federal mandates and adopted a Water Quality Ordinance. The purpose of the ordinance is to control water pollution associated with urban runoff. It provides a uniform countywide approach to prohibiting non-storm water discharges into the storm drain system.

As part of its water protection and conservation efforts, during 1991 the City adopted a Water Conservation Ordinance (Ord.538) that addresses water conservation measures.

2.0 Biotic Resources

Flora

The City of Los Alamitos contains biological resources typical of the urban areas of Southern California. All significant original native chaparral and grassland vegetation has been removed from the area over the years. These and their associated wildlife have long since been replaced by ornamental planting, which includes a variety of tree species.

Los Alamitos was a vast rural area during the 1930s and 1940s, and was primarily known for its agricultural production. In that respect, natural grasslands and other flora were destroyed by farming. Urban development of Los Alamitos' rural landscape necessitated large amounts of flora to be removed in order to pave the way for housing sites, streets, and other public improvements.

Street and Public Trees

Trees are an important natural resource in urbanized areas such as Los Alamitos. They visually "soften" the hard urban landscape, help to purify the air, and provide shade and shelter for humans, birds, and animals.

Los Alamitos' formally adopted standards, relating to the placement and replacement of City-owned trees (i.e., trees located within the public right-of-way, at parks, and at other City-owned facilities), are contained in Chapter 12.24, "Street Trees and Shrubs", of the Los Alamitos Municipal Code. The City's "Official Street Tree List" (City Council Resolution 929) is on file with the City Clerk's Office.

The following summarizes the information contained in Chapter 12.24, "Street Trees and Shrubs", of the Los Alamitos Municipal Code:

- Section 12.24.020, "Official parkway tree planting standards, policy, and official parkway tree list adopted." See Appendix A for the "City of Los Alamitos Parkway Tree List."
- Section 12.24.030, "Permit required to plant trees in street right-of-way."
- Section 12.24.040, "Restrictions on location for planting trees."
- Section 12.24.050, "Relocation or removal of trees or shrubs by city."
- Section 12.24.060, "Responsibility for maintenance in public right-of-way."
- Section 12.24.070, "Responsibility for maintenance on public property or in adjacent parkway."

- Section 12.24.080, "Removal, destruction, mutilation and injury of tree growing in or along public right-of-way prohibited."

Beginning in 1995, the Public Works Department embarked on a five-year sidewalk replacement program. As part of this program, all street trees and trees at City-owned facilities were counted and inventoried. This information was coded on to maps that encompass the entire City. As the sidewalk replacement program progresses, problem trees (that is, trees that are disease-ridden or cause damage to sidewalks, curbs, or gutters) will be replaced with one of the species listed on the City's "Official Street Tree List."

Los Alamitos Armed Forces Reserve Center (LAAFRC) Flora

Information pertaining to the flora and fauna located at the Los Alamitos Armed Forces Reserve Center (LAAFRC), is contained in the "(LAAFRC) Site Inspection" document, dated May 1996 and prepared by Clayton Environmental Consultants:

3.0 Soils

Soil erosion is practically non-existent in Los Alamitos due to its topography, which is relatively flat having less than a two-percent slope. A flood control channel bounds the City and a vast network of storm drains carry off storm waters, which are a prime source of soil erosion.

Most of the City of Los Alamitos is covered by a blanket of soil which varies in thickness from 0 to 30 feet and consists of poorly compacted clay and sandy silts. The City's soil composition is further discussed in the Safety Element.

4.0 Cultural and Historic Resources

Cultural resources can be regarded as symbols of a people and their civilization. These symbols can represent human activity in pre-history as well as the present. Cultural resources can provide a sense of place, and history, and a sense of pride for residents of a region. Although no archaeological or paleontological sites have been discovered in the City of Los Alamitos' planning area, buildings that have historical importance may be identified within the City.

The City recognizes the importance of preserving cultural and historical resources as a link to the past. The Los Alamitos area has a rich cultural history that includes the initial European explorers and endemic Amerindians, colonization by Spain, land grants, Mexican settlers and missions, and ultimate possession by the United States in 1846.

The following historical summary was taken from the Los Alamitos Museum Association's publication entitled, "The History of Los Alamitos (The City of the Little Cottonwoods)."

"The City's heritage began with the discovery of the Southern California coast by Juan Rodriquez Cabrillo in 1542, sailing under the Spanish flag. The land was occupied by the Puvu Indians, peaceful food-gatherers living at a Stone Age level.

It wasn't until the 1700's, when Russia and Great Britain began to show interest in the California area that Spain took steps to occupy it. The plan was to send soldiers to build Presidios (forts) and secure the land militarily, while Roman Catholic priests would build missions, converting nearby Indians to Christianity. In 1769, Father Junipero Serra planted a cross for the first string of missions in San Diego. In 1784, Manuel Perez Nieto, a soldier, was given a huge land grant, part of which was Rancho Los Alamitos, named after the abundant cottonwoods.

Horse and cattle raising was particularly profitable for the land's successive owners through the Gold Rush days.

In 1878, John Bixby acquired the Rancho and Nieto house, badly run down. Through remarkable business sense and energy, he established great farming and ranching enterprises which, supplemented by the discovery of oil in 1920 and later real estate transactions, has sustained his descendants to this day.

John Bixby dreamed of developing a city, but perhaps Los Alamitos' most direct impetus was the sugar beet bonanza of 1896-1925. Under the legislative encouragement of the U.S. government, Montana W.A. Clark formed the Los Alamitos Sugar Company. The factory and warehouses were built on Sausalito Avenue, worker's homes along Serpentine Drive, and, later, the Factory Club House on Los Alamitos Boulevard. This "Company Town" attracted people from a wide range of countries and backgrounds who worked in the factory, established small businesses and built a civilized lifestyle of churches, schools, local government agencies and social organizations. Following the close of the factory in 1925 due to a nematode infection of the soil, railroad problems, and obsolete equipment, the "City" returned to being a small town surrounded by small farms.

The United States Naval Air Station's move from Long Beach to Los Alamitos in 1943 revitalized population growth. The blossoming of housing tracts and consistent economic attractiveness of this area has created a city of modern requirements and lifestyle blended with remnants of the old businesses, families, and memories.

The Los Alamitos Museum is housed in a building which used to be the Los Alamitos volunteer fire station. In the late 1940's, the volunteer firemen began earning money to purchase the land for the station. The County of Orange then built the firehouse, which is made of adobe bricks, and the Los Alamitos volunteers finished the inside. The County used the same plans for other stations in the area. The station operated on a completely volunteer basis until the Los Alamitos fire station was moved to Green Street. The Los Alamitos Museum was dedicated on October 26, 1975, and opened with exhibits on April 26, 1976."

Although there are no sites in Los Alamitos currently listed on the State or Federal Registers of Historic Places, the City has a number of structures worthy of consideration. Several original structures constructed before the City's incorporation still exist and should be preserved. The

Los Alamitos Museum Association's publication entitled, "A History of Early Los Alamitos", contains a brief inventory of noteworthy structures.

5.0 Regional and Local Air Quality

The City of Los Alamitos is located in the South Coast Air Basin. The South Coast Air Quality Management District (SCAQMD) samples ambient air at 30 monitoring stations in the Basin, one of which is in Los Alamitos. The South Coast Air Basin currently does not comply with the Federal Clean Air Act standards for ambient air quality. As a result, the SCAQMD and SCAG adopted a plan (the Air Quality Management Plan (AMP) on March 17, 1989) aimed at bringing the region into compliance with the National Ambient Air Quality Standards (NAAQS) by December 31, 2007.

The 1989 AMP was revised in 1991 to incorporate the standards of the California Clean Air Act (CCAA). The CCAA became effective on January 1, 1989 and is generally more stringent than the Federal Clean Air Act. The 1991 AMP Revision was adopted by the Governing Board of the SCAQMD in July 1991. The Plan has 123 recommended control measures categorized into three technological tiers, based upon their readiness for implementation.

Contaminant levels in air samples are compared to federal and state standards to determine air quality. These standards are set by the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) at levels to protect public health and welfare with an adequate margin of safety. There are federal and state standards for ozone, carbon monoxide, nitrogen dioxide, PM10 (suspended particulate matter 10 microns or less in diameter), sulfur dioxide, and lead. The SCAQMD also measures for compliance with two other state standards: sulfate and visibility.

Air Pollution

Both the State of California and the federal government have established health-based standards for six air pollutants. These pollutants include carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, lead and fine particulate matter (PM10). The most critical pollutants in terms of health effects are described below:

Carbon Monoxide (CO) Carbon monoxide is an odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. CO passes through the lungs into the blood stream where it interferes with the transfer of oxygen to body tissues.

Ozone Ozone is a pungent, colorless gas that is typical in southern California smog. The major effects of "oxidants" are visibility reduction, vegetation damage, and aggravation of respiratory diseases and eye irritation. Peak ozone concentrations result in reduced lung function, particularly during physical activity. This effect is acute in the sick, elderly, and young children. Ozone levels peak during the summer and early fall months.

Particulate Matter Particulate matter (PM10) is small-suspended particulate matter. Particulate matter may carry carcinogens and other toxic compounds. Human lungs are unable to

filter this matter because of its small size. PM10 can be carried to other organs once it enters the body through the lungs.

Nitrogen Oxides (NO_x) Nitrogen oxide is an irritating gas that may increase the susceptibility of individuals to infection and may ~~constrict~~ constrict the airways of asthmatics.

The most significant gas affecting Northern Orange County's and Los Alamitos' air quality is carbon monoxide (CO). This gas is a primary pollutant in that it can directly be damaging. About 70 percent of Orange County's carbon monoxide comes from the incomplete combustion of gasoline by motor vehicles. State and federal controls on new cars are designed to limit carbon monoxide.

Reactive Organic Gases (ROG) are a by-product of incomplete combustion of fuel and organic waste material. ROG is also emitted to the atmosphere when paints, inks, solvents and gasoline evaporate. Rules regulating reformulation of gasoline in order to reduce emissions of reactive gases will be implemented by the California Air Resources Board (CARB) through the year 2000. Like CO, ROG is also a precursor to the formation of ozone, or smog.

Topography and Weather

Los Alamitos is located in the Southern California Air Basin (SoCAB) which includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside counties. The unique topographic and climatic conditions in the basin impact air quality. The basin is surrounded by the San Gabriel, San Bernardino, San Geronimo, and San Jacinto mountains. The topography results in the potential for trapping and accumulation of air pollutants in the air basin.

While contaminants are emitted at a fairly constant rate throughout the year, pollution concentrations fluctuate depending on weather.

The amount of air available to dilute pollutants depends primarily on two factors: the horizontal airflow and the vertical mixing. Vertical mixing is severely limited by temperature inversions. The important effect of a temperature inversion is to prevent pollutants from rising and being diluted vertically. Thus inversions trap pollutants in the lower layer of air where people breathe.

Normally the atmosphere's temperature decreases with altitude. During an inversion, warmer air lies above a layer of cooler air. The strong inversions typical of our summers are caused by downward vertical motion, called subsidence, which compresses and heats the air. The surface inversions typical of winter are formed by radiation as air is cooled in contact with the earth's cold surface at night. Both types of inversion mechanism may operate at any time of the year, and in the fall both may combine to produce our heaviest pollution.

The other major factor influencing pollutant dispersion is horizontal airflow, which is measured by wind speed. Wind direction is a major factor in alleviating air pollutant concentrations. Wind direction reversals can cause pollutants to drift back and forth beneath the inversion as winds shift.

The inversion and wind speed together determine the ventilation factor, which refers to the total volume of air available to dilute our contaminants. In Northern Orange County ventilation is normally adequate to disperse most of our pollution. However, poor ventilation during the warm, sunny months fosters the development of photochemical ozone, resulting in a "smog season" between May and October. Other contaminants such as carbon monoxide and particulates reach their highest levels in late fall and winter, but the very shallow inversions that cause their build-up do not persist.

6.0 Solid Waste Disposal

Source Reduction and Recycling Element (SRR)

In 1991, the Legislature passed the California Integrated Waste Management Act, AB 939. AB 939 requires all cities to reduce the amount of solid waste generated within their boundaries by 50% in year 2000.

In response to AB 939, in 1992 the City of Los Alamitos prepared a plan to achieve the solid waste reduction goals mandated by AB 939. The result, "The City of Los Alamitos Source Reduction and Recycling (SRR) and Household Hazardous Waste (HHW) Elements", became part of the Countywide siting element that was submitted to the California Integrated Waste Management Board (CIWMB) for final approval.

The Source Reduction and Recycling Element outlines and emphasizes the implementation of all-feasible source reduction, recycling, and composting programs. The Element also identifies the amount of landfill and transformation (incineration) capacity that will be needed for solid waste which cannot be recycled, reduced, or composted.

The City's SRR Element consists of the following nine components and appendices:

- a. Solid Waste Generation Study and Analysis
- b. Source Reduction
- c. Recycling
- d. Composting
- e. Solid Waste Facility Capacity
- f. Education and Public Information
- g. Funding
- h. Special Waste
- i. Integration

Solid Waste Generation Study Component (Source Reduction and Recycling Element)

The City of Los Alamitos contracts with one commercial franchised hauler, Briggeman Incorporated, to dispose of its residential and commercial solid waste. Waste collected by this hauler is taken to three area landfills: Puente Hills, Brea Olinda, and the SERRF (Southeast Resource Recovery Facility) in Long Beach.

During 1995, the City of Los Alamitos generated 17,922 tons of residential and commercial solid waste per year. (Note: "commercial solid waste" includes waste generated from multiple family, commercial, and industrial uses.) Of this amount (after recycling, composting, etc.) 3,100 tons, or 17.3% of the City's solid waste was diverted from landfills.

Los Alamitos' refuse comes from two primary sources: residential (38%) and commercial (62%). During the next decade, the County will rapidly deplete the permitted capacity of its existing landfills.

Source Reduction Component (Source Reduction and Recycling Element)

Source reduction simply means producing less waste. Some examples of existing source reduction activities occurring in Los Alamitos include repair of appliances, furniture, and household item donations, the use of diaper services and cloth grocery sacks, and backyard composting.

Recycling Component (Source Reduction and Recycling Element)

In 1995, nearly 3,100 tons of Los Alamitos' recyclable materials were diverted from area landfills. Of this material, 20 percent was recycled residential waste. Recycled residential waste material consisted of 772 tons of paper (88%), 26 tons of metals (3%), 60 tons of glass (7%), and 19 tons of plastics (2%).

Commercial businesses in Los Alamitos recycled over 17% of their generated waste in 1995, diverting 2,222 tons of waste from area landfills. This is significant because commercial waste comprised nearly 62% of the waste generated in the City during 1995.

In addition, the City will receive an additional 10 percent credit towards its 50 percent required diversion, which is mandated in the year 2000, as a result of using the Southwest Resource Recovery Facility (SERRF) in Long Beach for the primary disposal site of its non-recyclable waste.

Existing recycling activities within the City of Los Alamitos include a City Hall paper recovery program, buyback centers, business recycling programs, material salvage by commercial haulers, and routine cardboard recycling by grocery stores, and other major businesses.

To increase recycling, the City retains the services of a part-time contract Recycling Coordinator. The Recycling Coordinator administers Citywide residential and commercial recycling programs, prepares regular press releases, monitors City compliance with AB 939, and designs innovative ways to recycle and reuse waste products.

Composting Component (Source Reduction and Recycling Element)

Yard waste and readily decomposable material comprise a significant portion of the City's total waste stream. The City has targeted yard waste for future voluntary composting programs. Yard waste includes grass, leaves, and pruning. On a yearly basis, the City picks up Christmas trees for recycling. In addition, the City Yard recycles green waste generated from parks and public grounds. On a monthly basis, residents may drop off recyclable green waste at the Briggeman Disposal facilities, 3551 Sausalito Street.

Special Waste Component (Source Reduction and Recycling Element)

Special waste includes difficult-to-handle materials such as tires, construction debris, sofas, mattresses, and potentially hazardous wastes such as sewage, sludge, asbestos, auto bodies, or ash. Alternatives are analyzed in the Element, all of which are primarily oriented toward the private sector.

Education and Public Information Component (Source Reduction and Recycling Element)

Based on the Element's generators and targeted materials, a number of new programs were selected for implementation that target the residential sector, commercial/industrial sector, and schools.

In support of Earth Day 1993, the Los Alamitos School District teamed up with the City and Briggeman Industries, Inc. and started providing recycling containers at schools and at the District's offices.

Household Hazardous Waste Element (Source Reduction and Recycling Element)

Household hazardous wastes are any household discarded materials that may threaten human health or the environment if disposed of improperly.

The City will continue to participate in the periodic Orange County hazardous waste roundup events sponsored by Orange County. The City will also participate in the County program, which will use mobile collection facilities for regularly scheduled collection events. The load-checking programs will continue at all landfills used by the City.

In addition, the cities of Los Alamitos, Seal Beach, Cypress, and La Palma utilize Block Grant funds in conjunction with the California Oil Recycling Enhancement Act of 1991 to fund state-certified used motor oil collection centers and public education programs.

The Nondisposal Facility Element (NDFE)

In 1992, the California legislature enacted Assembly Bill 3001, which amended the California Integrated Waste Management Act (AB 939). This statute required cities to prepare an additional planning document, the Nondisposal Facility Element (NDFE).

A nondisposal facility is defined as any solid waste facility required to obtain a solid waste facilities permit that recovers for reuse or recycling at least 5% of the materials it receives. Typical nondisposal facilities include transfer stations, materials recovery stations (MRF), and large scale composting facilities.

The NDFE is the document which identifies and describes all new and any expansion of existing nondisposal facilities which will be needed through the year 2000 to implement the City's Source Reduction and Recycling Element (SRRE) programs.

In December 1994, the Los Alamitos City Council adopted the Los Alamitos Nondisposal Facility Element.

7.0 Energy Resources

Energy issues impact a wide range of daily activities. This includes the more obvious uses of energy for transporting, heating, cooling, and lighting. The use of energy is also affected by local climatological conditions. The City of Los Alamitos enjoys a mild climate with summer temperatures averaging 79 degrees and winter temperatures averaging 67 degrees. Prevailing winds are southwest in the summer and northwest in the winter, with a mean hourly speed of 6.5 miles per hour. Average annual rainfall is 15 inches.

A number of goals and policies in various general plan elements address energy issues both directly and indirectly. The goal of a jobs/housing balance in the Land Use Element will reduce commuter travel. Circulation goals and policies seek to reduce reliance on the automobile as the chief means of transportation.

Policies in this element attempt to conserve energy by reducing the waste and excessive use of natural gas, electricity and water. This wide-ranging approach to energy conservation will help to reduce the energy budget of Los Alamitos' citizens.

8.0 The Los Alamitos Armed Forces Reserve Center (LAAFRC) -Restoration Efforts

LAAFRC Background Information

The Los Alamitos Armed Forces Reserve Center (LAAFRC) was originally used in the 1920s and 1930s for agricultural purposes. In May 1942, the property was commissioned as the Los Alamitos Naval Air Station. The station was used for pilot training and as an aircraft-staging facility. In November 1972, the Los Alamitos Naval Air Station was converted to the LAAFRC and has retained that status to date. In August 1973, the California Army National Guard (CA ARNG) took operational control of the facility. In July 1977, the LAAFRC was transferred from the Department of the Navy to the Department of the Army by the House Armed Services Committee. The LAAFRC was licensed to the State of California by the Department of the Army in 1977. In August 1977, the CA ARNG was directed to be the host activity at the facility and was assigned the operational control of the installation.

The Los Alamitos Armed Forces Reserve Center (LAAFRC) occupies approximately 50 percent of the City of Los Alamitos' land area. The LAAFRC is a military facility and the City of Los Alamitos has no jurisdiction over any LAAFRC land use and operational activities.

The Army National Guard's Installation Restoration Program

The Army National Guard's Installation Restoration Program (IRP) is a nationwide effort to identify and resolve environmental impacts that may have resulted from past practices or accidents on Army National Guard installations. These practices usually occurred years ago, when there was limited knowledge of the environmental consequences associated with accidental spills or routine disposal of waste oils, cleaning solvents, fuels, and other substances.

The Los Alamitos Armed Forces Reserve Center (LAAFRC) is well integrated into the surrounding communities. Residents are more aware of environmental issues on the installation

since a March 2, 1994 public meeting and fact sheet describing the Preliminary Assessment results. The primary concerns include the possibility that groundwater was affected by the leaking fuel tanks and landfills, the removal of the underground Jet Propellant 4 fuel tanks, and the installation of above-ground Jet Propellant 8 fuel tanks.

Other installation environmental concerns include the restoration of areas near the old landfill; the monitoring of methane in the landfills; the condition of the installation sewers; and maintenance of the greenbelt near, and storage of vehicles behind the Denwood wall.

The objectives of the Installation Restoration Program (IRP) are to:

- Identify former waste, spill, storage and disposal sites;
- Evaluate the extent and nature of any environmental impacts, if any; and
- Initiate the appropriate remedial action.

If substances posing an imminent threat to human health or the environment are discovered, steps are taken to immediately remediate or remove those substances.

The Army National Guard's Installation Restoration Program (IRP) consists of several phases. A summary of these phases follows:

A Preliminary Assessment (PA), the first phase of the program, is where the Army National Guard determines whether past operations or accidents may have contributed to any environmental impacts at the installation. Information used in the preparation of the Preliminary Assessment (PA) is gathered through interviews with past and present installation employees and an extensive review of historical and operation records.

The Preliminary Assessment (PA) for the LAAFRC, dated August 1993 and prepared by Clayton Environmental Consultants, is on file for public review in the City of Los Alamitos Community Development Department.

If the potential for environmental impacts exist, then a Site Inspection (SI) is conducted. This involves collecting and analyzing soil, groundwater, and surface water samples from identified areas. The analysis determines the presence or absence of possible environmental impacts, and whether a removal program should be started.

The Site Inspection (SI) for the Los Alamitos Armed Forces Reserve Center (LAAFRC), dated May 1996 and prepared by Clayton Environmental Consultants, is on file for public review in the City of Los Alamitos Community Development Department.

If substances exist that pose a threat to human health, welfare, or the environment, but they do not require an immediate response, then a Remedial Investigation is conducted. This phase involves a more detailed inspection and analysis than which is conducted during the Site Inspection. If groundwater is affected, extensive hydrogeologic studies are conducted to

determine water flow direction and speed. During or immediately after the Remedial Investigation, a Risk Assessment is completed. The Risk Assessment is a qualitative and quantitative analysis of the findings made in the Remedial Investigation to determine the level of risk, if any, to human health. All of this information is necessary for the development of the remedial alternatives in the Feasibility Study.

Site Inspection - Identified Areas of Concern

A Site Inspection (SI) was performed at the Los Alamitos Armed Forces Reserve Center (LAAFRC) beginning in August of 1994 and continuing until October of 1995. The Site Inspection was prepared under the authority of the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA). The report, prepared by Clayton Environmental Consultants, is on file in the Community Development Department.

The purpose of the SI is to evaluate sites of concern previously identified during the Preliminary Assessment (PA). The SI followed an approved work plan that had four objectives: (1) to determine if the site of concern poses a potential threat to the public health or the environment, (2) to evaluate if a need exists for emergency (interim) removal actions, (3) to provide sufficient data for Hazard Ranking System II scoring, and (4) to determine the future course of action, such as a remedial investigation/feasibility study (RI/FS), for each area of concern.

Los Alamitos Armed Forces Reserve Center (LAAFRC) Restoration Advisory Board

In 1995, area residents formed the LAAFRC Restoration Advisory Board. This Board reviews the technical information developed during and following the Remedial Investigation at the LAAFRC. The Restoration Advisory Board provides an open forum for discussion and exchange of information. The Board is co-chaired by an Armed Forces Reserve Center representative and a representative from the local area.

CHAPTER 3 - SAFETY ELEMENT

Background Technical Report

Scope and Purpose of the Safety Element

State Government Code section 65302 (i) requires general plans to include a safety element for a community's protection from natural and man-made safety risks. Natural hazards include flooding, earthquakes, ground rupture, and landslides. Man-made hazards include exposure to hazardous materials, wildland/urban fires, crime, and aircraft overflight.

The safety element's basic purpose is to comprehensively inventory hazards that impact persons and property in Los Alamitos. It is the primary document for identifying hazards which must be considered in the City's physical development and guides local government decision-making in safety-related matters.

Organization of the Safety Element

The Safety Element of the *Los Alamitos 2010 General Plan* is comprised of two documents, the Background Technical Report (BTR) and the policy document. The BTR contains the baseline data and information necessary to support the goals, policies, and implementation programs contained in the policy document.

1.0 Seismic Safety and Geologic Hazards

Los Alamitos is in a region of high seismic activity and is subject to potentially destructive earthquakes. Earthquakes are the result of an abrupt release of energy stored in the earth. This energy is generated from the forces which cause the continents to change their relative position on the earth's surface. This process is called "plate tectonics." Large earthquakes are caused by the rupturing of great rock masses under strain within the earth's crust. This usually takes the form of abrupt slipping or sliding along a rupture plane (fault). Each time two segments of the earth's crust suddenly shift past one another along a fault, an earthquake occurs. Major earthquakes are commonly accompanied by foreshocks and aftershocks which are usually less intense and represent local yielding and adjustments of rock masses along the main zone of faulting.

Earthquakes create two types of hazards: primary and secondary. Primary seismic hazards include ground shaking, ground displacement, subsidence, and uplift due to the seismic episode. Primary hazards can, in turn, induce secondary hazards. These include the following: ground failure (lurch cracking, lateral spreading, and slope failure), liquefaction, landslides, seismically induced water waves (tsunamis and seiches), movement on nearby independent faults (sympathetic fault movement), and dam failure. Two other geologic hazards, subsidence and uplifts, are caused by vertical mass movements of earth's materials with little or no lateral movement. Due to its flat topography, Los Alamitos residents are not exposed to geologic hazards such as landslides.

Existing Seismic Conditions

While there are no known active or potentially active faults located in the City of Los Alamitos, the entire Southern California region is considered to be seismically active. Five faults, the Newport-Inglewood, Norwalk, El Modena, Whittier-Elsinore, and Elysian Park Faults are situated within close proximity to Los Alamitos.

Earthquakes on faults located outside Orange County can cause damage to Los Alamitos. Depending on their magnitude, earthquakes generated within a fifty-mile radius of a given point are considered noteworthy and could cause minor to moderate damage. For Los Alamitos, the major perimeter faults are the San Andreas and San Jacinto (including Imperial and Superstition Hills) Faults. Other regional faults are the Malibu-Coast-Raymond; Palos Verdes; San Gabriel, and Sierra Madre-Santa Susana-Cucamonga Faults (including "San Fernando").

The following describes significant earthquake faults which may have an effect on Los Alamitos:

Newport-Inglewood Fault: The Newport-Inglewood Fault is a series of northwest-trending and vertically-dipping faults extending from the southern edge of the Santa Monica Mountains southeastward to the area offshore of Newport Beach. From north to south the fault segments are:

1. Charnock Fault
2. Overland Avenue Fault
3. Inglewood Fault
4. Portero Fault
5. Avalon-Compton Fault
6. Cherry-Hill Fault
7. Seal Beach Fault

This fault zone produced the catastrophic 1933 Long Beach earthquake with a Richter scale magnitude of 6.3. It is believed this fault is capable of generating a maximum credible 7.5 magnitude earthquake.

Norwalk and El Modeno Fault Zone: The Norwalk Fault is approximately 16 miles long and lies approximately six miles north of Los Alamitos. Seismic activity has occurred along this fault, and this fault has the potential to cause a 4.7 magnitude earthquake.

The El Modeno Fault is a north trending fault that is located approximately 11 miles north of Los Alamitos. Current evidence suggests this fault is inactive.

Whittier-Elsinore Fault: The Whittier-Elsinore Fault parallels the Newport-Inglewood Fault zone across the northeasterly edge of Orange County. Most recorded shocks in this zone range from 4.0 to 5.0 magnitude, which is considered moderately active. However, in 1910 an earthquake registering 6.0 on the Richter scale hit Riverside County in the vicinity of Lake Elsinore. It is estimated that the maximum credible earthquake capable from the Whittier-Elsinore Fault zone is 7.0 magnitude.

Elysian Park Fault: The Elysian Park Fault, situated in the Montebello and Monterey Park areas, is 10 to 15 miles north of the City. It produced the 1987 Whittier Narrows earthquake that had a magnitude of 5.9.

San Andreas Fault: The San Andreas Fault covers over 600 miles, traversing virtually the entire length of California. The fault is divided into segments which have distinctive behavior patterns. The southern segment is over 300 miles long and occasionally delivers large earthquakes.

The last great earthquake on this segment was the 1857 Fort Tejon earthquake which is believed to have caused a rupture extending 200 miles. Several other earthquakes have been attributed to the San Andreas Fault; the last one to affect Southern California was a 6.7 magnitude quake in 1899. It is estimated by geologists this fault may have the potential to generate an earthquake of magnitude 8.5 on the Richter scale which is called the maximum credible earthquake.

San Jacinto Fault: The San Jacinto Fault branches from the San Andreas Fault on the north side of the San Gabriel Mountains and parallels the San Andreas Fault to the Mexico-California border. The San Jacinto Fault has been very active, and damaging earthquakes have occurred along its entire length. The last earthquake on this fault exceeding 6.0 occurred in 1968. Ten damaging earthquakes have been attributed to this fault since the 1800s all of them exceeding 5.4 and the largest measuring 6.8 on the Richter scale.

Earthquake faults located in the Orange County-Los Angeles County Region which are capable of generating destructive earthquakes and surface rupture in Los Alamitos are depicted on Figure 3-1.

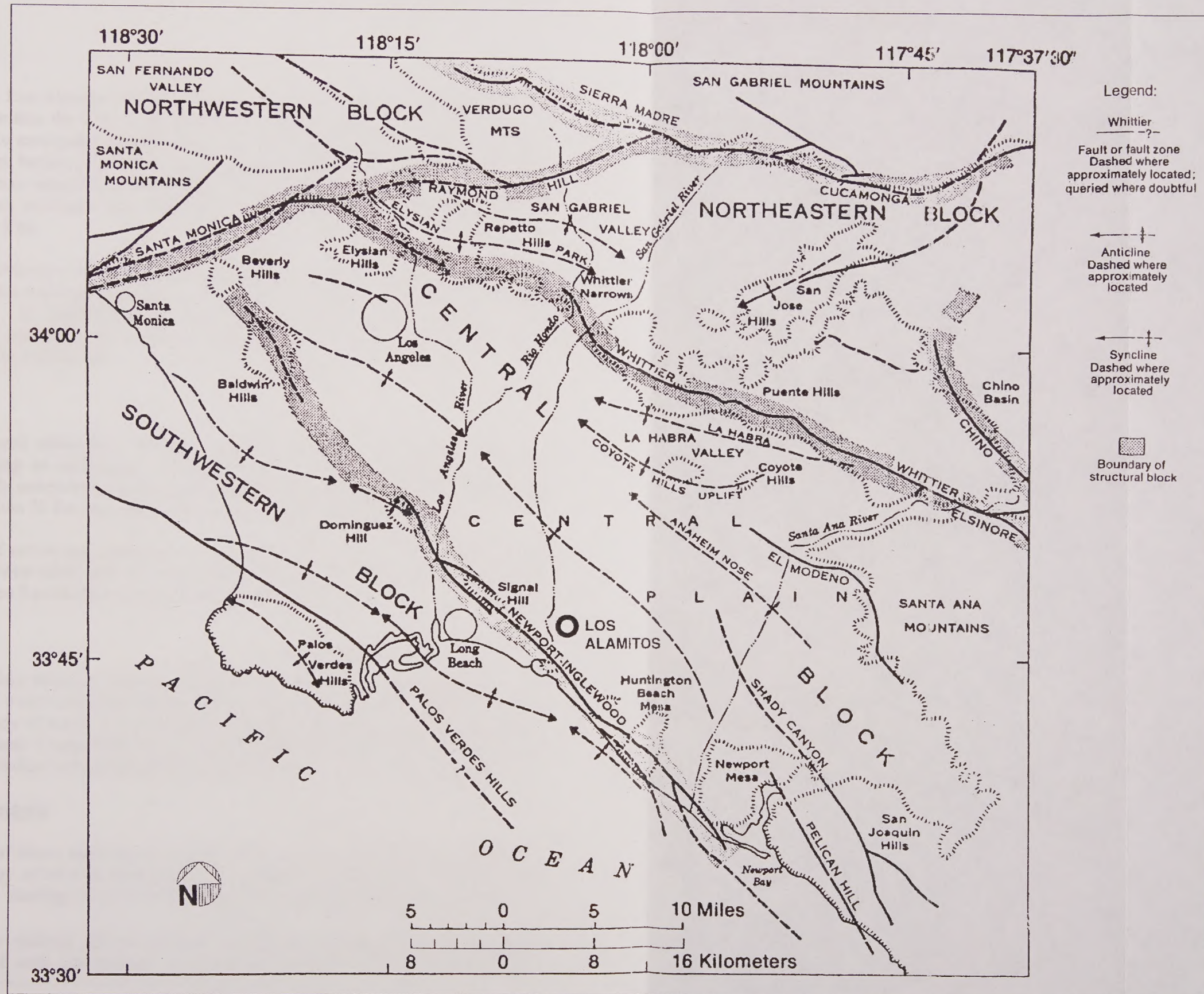
Surface Rupture and Ground Shaking

Surface rupture resulting from earthquakes is unlikely to occur in Los Alamitos because no faults have been identified within the City boundaries. The nearest active faults, El Modena and Norwalk, lie approximately six to eleven miles north of Los Alamitos. Other faults in the area include the Newport Inglewood, Whittier-Elsinore, Elysian Park, San Jacinto, and San Andreas. The impact of earthquakes on Los Alamitos depends on several factors. The particular fault, fault location, distance from the City, and magnitude of the earthquake all determine the degree of shaking that will occur in the City. In addition, the soil and geologic structure underlying Los Alamitos influences the amount of damage the City may experience. The soils underlying Los Alamitos include alluvium deposits which may become unstable during intense groundshaking.

The Newport-Inglewood Fault is anticipated to generate the most destructive ground shaking in Los Alamitos. The El Modena and Norwalk Faults, though closer to the City, are predicted to

Major Faults

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA



NOT TO SCALE



General Plan

FIGURE 3-1

generate smaller magnitude earthquakes. The San Jacinto Fault is very active and has historically produced 6.0 to 7.0 earthquakes. However, as Los Alamitos lies approximately 40 miles to the south, the distance between the City and fault would minimize the ground shaking impact.

Hazardous Buildings

During a seismic event, Los Alamitos may be subjected to high levels of groundshaking. As a result, some buildings within the City could sustain substantial damage. Some structures are particularly susceptible to earthquake damage, including tilt-up structures, unreinforced masonry buildings, older buildings, buildings over four stories in height, and mobile homes. Concrete tilt-ups built prior to 1974 may especially suffer damage. It is unknown how many pre-1974 tilt-up and unreinforced masonry structures exist within the City boundaries and there is currently one mobile home park in the City.

Other structures in Los Alamitos are vulnerable to earthquake damage. For example, sidewalks bordered by high concrete walls present a potential hazard to pedestrians if the walls collapse during groundshaking. In addition, if an earthquake occurs, high occupancy buildings throughout the City are susceptible to structural failure. This situation is capable of injuring large numbers of people in a given area.

Liquefaction

Liquefaction causes ground subsidence. It is the process by which the soils become fluid and lose shear strength during an earthquake. Three simultaneous conditions are necessary for liquefaction: 1) generally cohesionless soils, predominantly sand; 2) high ground water (where the groundwater is less than 30 feet from the surface); and 3) ground shaking.

Due to the proximity of active and potentially active faults in and around Los Alamitos, the characteristically high water table, and the cohesionless subsoils, areas in the City with these conditions may experience liquefaction during extreme ground shaking.

Seiches

Another potential secondary source of damage is from the generation of seiches. A seiche is the oscillation of sloshing of water caused by seismic activity or landsliding. It may occur in a lake, bay, or other enclosed body of water. It may result in damage to peripheral shore development or to downstream development if water tops a dam. Due to recent dam upgrades, potential damage to Los Alamitos, from a failure of Prado Dam on the Santa Ana River, is no longer an issue.

Seismic and Geologic Mapping

The California Division of Mines and Geology (CDMG) has produced a series of maps depicting the environmental geology of cities in Orange County, including Los Alamitos. This ten plate set depicts the following: faulting; most recent faulting; earthquake epicenters; liquefaction

potential; relative seismic shaking; massive bedrock landslides; mud-debris flows and rockfall; expansivity potential of soils and rockfall; expansivity potential of soils and rock units;

distribution of peat deposits; and tsunami risk. These maps can be reviewed at the Orange County Environmental Management Agency.

Infrastructure Hazards

The following section discusses the infrastructure hazards related to a seismic event:

Roadways: After an earthquake, evacuation and emergency vehicle access could be blocked if surface streets are damaged or covered with debris. Freeway overpasses at Katella Avenue and Cerritos Ave could collapse and block ingress and egress to the City. The City's adopted "Emergency Operations Plan", dated September 1994, specifies City procedures in such cases.

Natural Gas Hazards: Natural gas service to the City is provided by The Gas Company. The gas mains within the City of Los Alamitos range in age from those installed in the 1940's to present day installations. The distribution system in Los Alamitos primarily consists of high and medium pressure lines, ranging in size from 1/2 inch to 10 inches in diameter, which form a grid pattern.

The Gas Company maintains one major trans-city, high pressure, 34-inch gas line running east and west along Lampson Avenue. This is part of a large transmission network system that supplies the greater Los Angeles and Orange County area.

Natural gas lines can fail due to seismic activity, possibly resulting in an explosion. The Los Alamitos "Emergency Operations Plan", discussed later in this document, outlines earthquake procedures and evacuation routes for use during a seismic event.

Electrical Power Transmission Line Hazards: The City of Los Alamitos receives electrical service from the Southern California Edison Company. Electrical infrastructure is located both above and below ground level within the City limits. Electrical current flows from Southern California Edison generating facilities to the City of Los Alamitos for delivery to receiving stations or substations at 4,000 and 12,000 volts electrical potential.

In the case of a seismic event, electrical lines could fall to the ground and create risks of electrocution or fire. The evacuation plan contained in the Los Alamitos "Emergency Operations Plan" shows the potential barriers created by downed electrical lines.

Underground Pipeline Hazards: Underground pipelines are a potential hazard during and after a seismic event. The major threats posed by underground pipelines include explosions, fire, and contamination of groundwater used as a drinking water source. The evacuation plan contained in the Los Alamitos "Emergency Operations Plan" shows the potential barriers created by broken underground pipelines.

Several pipelines underlie the City of Los Alamitos. These lines are used to transport oil, gasoline, and crude oil. The Background Technical Report for the Circulation Element discusses the general location of the buried petroleum pipelines located within the City of Los Alamitos.

2.0 FLOODS

2.1 Background - Flood Control and Storm Drains

Storm drainage and flood control in the City of Los Alamitos is maintained by the Orange County Flood Control District (OCFCD). The OCFCD is empowered to construct and maintain flood control works to prevent or minimize loss of life and property caused by flooding and to conserve water. The Orange County Environmental Management Agency (EMA) implements the Flood Control District's funded activities program which includes the design, construction, operation, and maintenance of regional flood control facilities. The flood control system in the City is part of the multi-jurisdictional regional flood control network which discharges storm water runoff into the San Gabriel River and Bolsa Chica Creek channels.

Two prominent natural surface water bodies located in and adjacent to Los Alamitos are the southwesterly flowing Coyote Creek and the southerly flowing San Gabriel River, respectively. A third natural water body is the Carbon Creek; a westerly flowing creek which converges with Coyote Creek. Each of these two concrete-lined creeks are intermittent and can be dry for some part of the year. The concrete-lined San Gabriel River remains flowing year round in the lower end. These drainage ditches drain surface water from the cities of Los Alamitos, Cypress, Stanton, Garden Grove, and other cities.

Most flood control facilities within the City of Los Alamitos currently provide protection for a twenty-five-year storm. However, like most of Orange County, a 500-year flood will result in widespread flooding throughout the City.

Alamitos Bay and the Pacific Ocean are the only downstream surface water body receptors in the regional drainage pattern encompassing the City of Los Alamitos. Alamitos Bay is classified as a coastal surface water; coastal waters may be defined as waters subject to tidal action and waters in coastal sloughs.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program. The program provides communities and individuals with flood hazard information and provides flood insurance for property owners within participating jurisdictions.

Floodplain management is a key component to effective flood control within Los Alamitos. The Federal Insurance Administration's official maps delineate areas of special flood hazard applicable to Los Alamitos. Figure 3-2 displays the 100-year flood characteristics for Los Alamitos as determined by the Federal Emergency Management Agency (FEMA). A 100-year flood is a flood which has a one in 100 chance of occurring in any year.

2.2 Santa Ana River - Potential Los Alamitos Flood Threat

According to the "Safety Element of the County of Orange General Plan" dated August, 1987, the Santa Ana River poses the following potential flood threat for Los Alamitos:

Santa Ana River

The Santa Ana River basin is the largest watershed area in Southern California encompassing approximately 3,200 square miles. The watershed area is separated into an upper and lower basin roughly divided by Prado Dam and Reservoir near the City of Corona. The Santa Ana River flows through the principal urban centers of San Bernardino and Riverside counties in the upper basin and most of the major cities of Orange County in the lower basin. According to a 1975 U.S. Corps of Engineers report on the Santa Ana River Main Stream and Santiago Creek, under the most severe conditions likely, floodwaters would cover over 100,000 acres (including Los Alamitos) to an average depth of three feet. Some areas in Orange County would be much deeper (for example, Huntington Beach's low area would be under 6 feet of water).

3.0 PUBLIC SAFETY

This section focuses on public safety concerns that affect the physical and social character of Los Alamitos: crime, fire, and hazardous materials hazards.

3.1 Public Safety

Police Service in Los Alamitos

The Los Alamitos Police Department is comprised of 26 sworn personnel, 6 full-time civilian employees, 4 part-time civilian employees, a 17 member reserve force, and an explorer scout post.

The Department complements its normal duties with such activities as neighborhood watch, ride-along, home inspections to prevent burglaries, and a youth services program to counsel and assist juvenile offenders. The Department's speakers bureau is available to address civic organizations and other groups upon request.

3.2 Fire

Wildland and Urban Fire Hazard

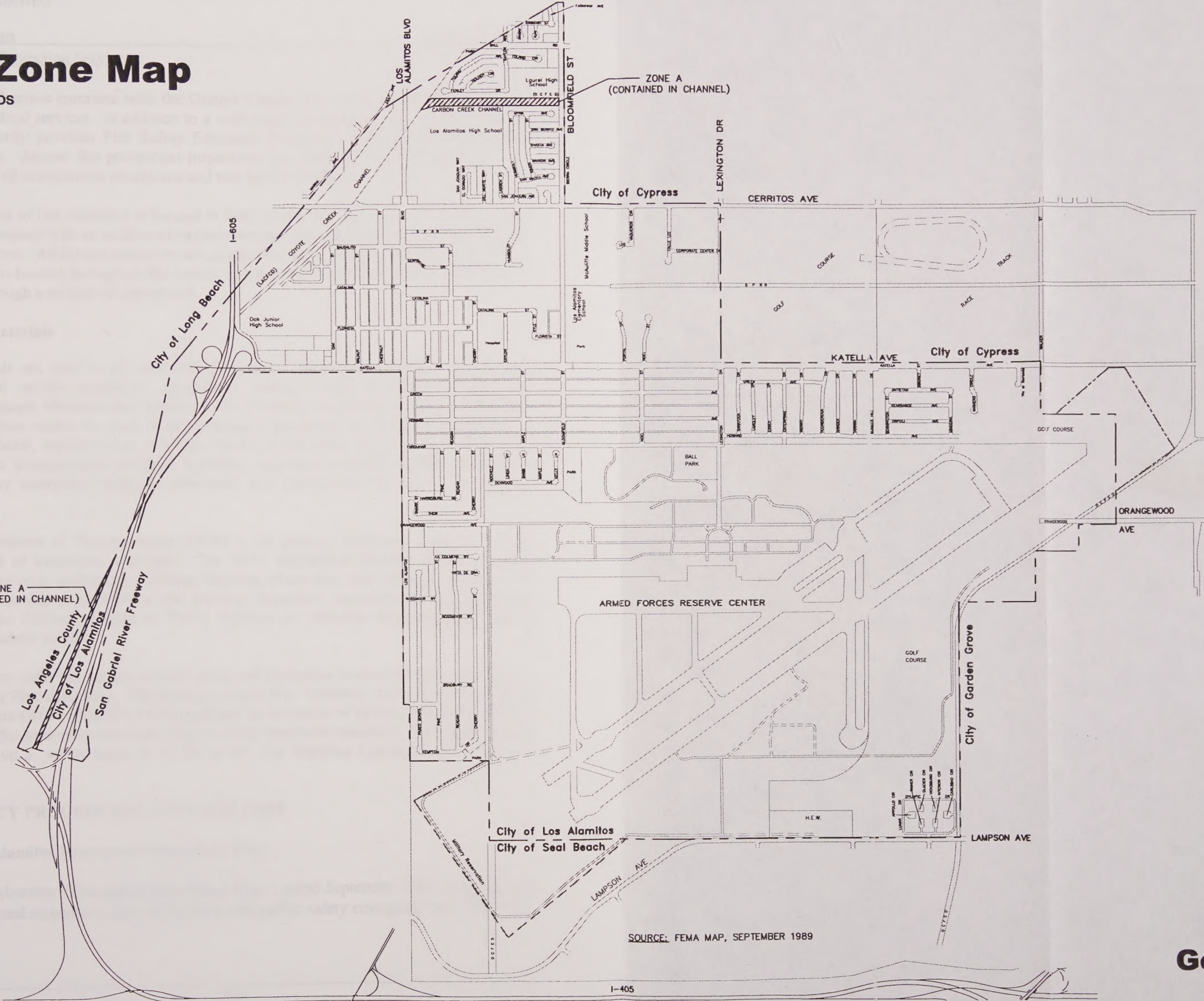
Wildfires are those fires of any size which burn in woodland, brushland and grassland areas. Urban fires are those fires which burn in developed urbanized areas and include commercial, industrial and residential fires. At the interface between brush-woodland area and urban areas, wildland fires can become urban fires and vice versa. This vulnerability is especially critical when strong Santa Ana winds are present. Due to the low density character of the community and sparse wildland areas in the City of Los Alamitos, the seismically-induced wildland fire hazard is considered to be insignificant to low.

Flood Zone Map

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

- City Boundary
- Flood Zone Area



NOT TO SCALE



General Plan

FIGURE 3-2

Los Alamitos Fire Protection Services

The City of Los Alamitos contracts with the Orange County Fire Authority for fire protection and emergency medical services. In addition to a wide range of emergency services, the Orange County Fire Authority provides Fire Safety Education Programs to schools, businesses and homeowner groups. Annual fire prevention inspections are conducted by personnel from the local fire station in all occupancies except one and two family dwellings.

The local fire station in Los Alamitos is located at 3642 Green Avenue. The fire station houses one paid engine company with an additional engine company and a unit manned by a 25-man fire service volunteer crew. Additional resources are quickly available from the additional 45 Orange County Fire Stations located throughout the county and from the City of Long Beach and County of Los Angeles through a mutual aid agreement.

3.3 Hazardous Materials

Hazardous materials are used in all segments of society. Hazardous material users include manufacturing and service industries, agriculture, military bases, hospitals, schools and households. The major transportation routes in Los Alamitos include the freeway system and surface streets. These routes are used daily to transport hazardous materials from suppliers to users. On these routes, transportation accidents involving hazardous materials can occur. The threats posed by a transportation accident involving hazardous materials include explosions, physical contact by emergency response personnel, and exposure to the public via airborne exposure.

The Federal Department of Transportation (DOT) is the primary regulatory authority for the interstate transport of hazardous materials. The DOT regulations establish criteria for safe handling procedures (e.g., packaging, marking, labeling, placarding, and routing). Criteria also exist regarding personnel qualifications and training, inspection requirements, and equipment specifications. The California Highway Patrol enforces the intrastate transport of hazardous materials and hazardous wastes.

The local regulatory authority for the on-site storage of hazardous materials in Los Alamitos is the Orange County Fire Authority. The Orange County Fire Authority includes the Hazardous Materials Disclosure Office (HMDO) which produces an inventory of all the City businesses that use, store, or handle hazardous materials above certain threshold quantities. This information, which is updated on a yearly basis, is on file in the Los Alamitos Community Development Department.

4.0 EMERGENCY PROCEDURES AND FACILITIES

4.1 City of Los Alamitos Emergency Operations Plan

The City of Los Alamitos "Emergency Operations Plan", dated September 1994, addresses the jurisdiction's planned response to natural disasters and public safety emergency situations. The

Plan's operational concepts focus on potential large-scale disasters which can generate unique situations requiring unusual responses. Such disasters pose major threats to life and property and can impact the well being of large numbers of people.

The City of Los Alamitos "Emergency Operations Plan" is activated immediately upon the existence or declaration of a state of emergency for the state or nation. It may also be placed into effect in case of local disaster by action of City officials.

The Plan provides overall organizational and operational concepts for responding to various types of identified hazards. Included are listings of responsible response agencies, emergency action checklists for hazard-specific responses, and operational data such as listings of resources, key personnel, and essential facilities. The Plan is updated on a periodic basis to improve disaster response and recovery operations.

In a major disaster, mutual aid sources in adjacent jurisdictions are likely to be fully committed to their own needs, and there may be substantial delays in the request and transport of assistance from more distant locations. Access to and egress from the City is likely to be inhibited by damage caused by the disaster and related congestion and accidents.

Effective disaster preparedness will require the concerted efforts of City agencies, residents, and the business community. Not only must effective plans and procedures be in place, but those plans need to be tested and improved through frequent disaster exercises.

4.2 Hospital and Medical Facilities

Los Alamitos residents are served by the Los Alamitos Medical Center. If the need arises, there are numerous hospitals located in adjacent cities which could serve Los Alamitos residents.

Facilities vital to post-earthquake disaster response efforts include fire control and law enforcement facilities, hospitals, and emergency operations control and communication centers. It is imperative such facilities be able to withstand the effects of a major earthquake and remain fully functional. In this regard, factors warranting careful consideration include seismic design and construction requirements, site location and accessibility, impacts resulting from damage to adjacent buildings, and the degree of usability of vital facilities following an earthquake.

4.3 State of California's Office of Emergency Services (OES) - Los Alamitos Armed Forces Reserve Center

The State of California's Office of Emergency Services (OES) has a facility at the Los Alamitos Armed Forces Reserve Center (AFRC). This facility has access to a 10,000 foot long runway which is capable of accommodating any type of emergency aircraft. The OES, which is staffed by full-time personnel, has activated its emergency services during times of civil disturbance,

floods, wild fires, and other emergencies. OES, with the cooperation of the Federal Emergency Management Agency (FEMA) and the California National Guard, have made an ongoing commitment of cooperation in the event of a wide-spread emergency.

All California disaster preparedness activities are coordinated and implemented through OES.

Los Alamitos Armed Forces Reserve Center's (AFRC) on-site facilities presently include two runways and associated taxiways, ramp space, and hangars. More than 70 UH-1 helicopters are proposed to be replaced initially with four C-12 fixed-wing aircraft at the Aviation Support Facility. This is occurring in conjunction with mission changes established by the Army Reserve and the Department of the Army. The C-12 aircraft will be used for transporting Government personnel and cargo. As many as 12 additional airplanes may follow, for a projected total of 16 fixed-wing twin engine turbo prop aircraft. There are specific Federal Aviation Association (FAA) land use regulations pertaining to aircraft impact zones and building heights in the vicinity of the AFRC.

CHAPTER 4 – OPEN SPACE & RECREATION ELEMENT Background Technical Report

INTRODUCTION

Scope and Purpose of the Open Space and Recreation Element

The Open Space and Recreation Element addresses the City's open space resources and the preservation and enhancement of recreational opportunities. This Element combines the State-mandated Open Space Element and an optional Recreation Element.

State law, Government Code Section 65302(e), requires cities to prepare and adopt an open space element of their general plan which addresses areas required for open space for outdoor recreation and areas that serve as links between major recreation and open-space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.

The City's open space resources include parks and recreational facilities (public tennis courts, park centers, public school facilities, ball fields, and picnic areas); the Coyote Creek riverbed area; landscaped medians; open areas occupied by utilities (flood control channels, railroad lines, and utility easements); and, private recreational facilities, such as church and private school sites.

As of 1997, approximately 137.8 acres of Los Alamitos' total land area was designated as "OA" (Open Area) and 153 acres were designated as "CF" (Communities Facilities).¹ In Los Alamitos, open space, recreational, and public facilities uses are located in the "OA" (Open Area) and "CF" (Communities Facilities) General Plan districts.

Organization of the Open Space and Recreation Element

The Open Space and Recreation Element of the *Los Alamitos 2010 General Plan* is comprised of two documents, the Background Technical Report (BTR) and the policy document. The BTR contains the baseline data and information necessary to support the goals, policies, and implementation programs contained in the policy document.

1.0 Open Space Overview

It is the intent of the Open Space and Recreation Element to encourage the preservation of existing open spaces and recreational facilities and the development of new resources. Los Alamitos has a variety of parks, open space, and recreational resources. In addition to public parks, schools, flood control channels, power, water, gas transmission easements, and, railroad right-of-ways are valuable open space and recreational resources.

¹ The total land area of Los Alamitos is 2,752 acres. Over 52.3 percent, or 1440 acres of this land area is occupied by the Los Alamitos Armed Forces Reserve Center. Non-military lands comprise approximately 1,312 acres. Of the non-military land, the "OA" (Open Area) district comprises approximately 137.8 acres and the "CF" (Communities Facilities) district comprises approximately 153 acres.

Public Parks

Currently, Los Alamitos has 14.27 acres of land devoted to public park use. The locations of parks and recreational areas are depicted on Figure 4-1. Los Alamitos' city parks are as follows:

Park	Acreage	Amenities
▲ Laurel Park	4.5 acres	Lighted ball diamond/multipurpose field, tennis courts (4), picnic area, restrooms.
▲ ▲ Little Cottonwood Park	6.07 acres	Children's play area, softball diamond and soccer field, two sand volleyball courts, shelter and barbecue area.
Labourdette Park	.25 acres	Children's play area, picnic shelter.
Lewis Park	1.7 acres	Children's play area, basketball court, softball diamond, picnic and barbecue area.
Roberts Park	.50 acres	Children's play area.
Stansbury Park	.75 acres	Children's play area.
Soroptimist Park	.25 acres	Children's play area.
Sterns Park	.25 acres	Children's play area.
TOTAL ACREAGE:		14.27 ACRES OF PUBLIC PARKLAND

- ▲ Laurel Park is currently secured for public use through a joint use agreement with Los Alamitos Unified School District. The term of the 20-year agreement is 1982 to 2002.
- ▲ ▲ Title to Little Cottonwood Park was transferred to the City of Los Alamitos by the United States Department of the Interior through a Quit Claim Deed on September 7, 1989. If the property were needed for national defense, title would revert back to the Federal Government.

Los Alamitos Park Standards

The City's 1989 General Plan established a goal of 2.5 acres of parkland per 1,000 residents in the City. Based on this standard, a population of 12,425 (California Department of Finance 1995 population estimate) would equate to a City parkland need of 31 acres. Based on this General Plan standard, the City currently has a shortfall of 16.73 acres.

Facility Agreements - City Of Los Alamitos

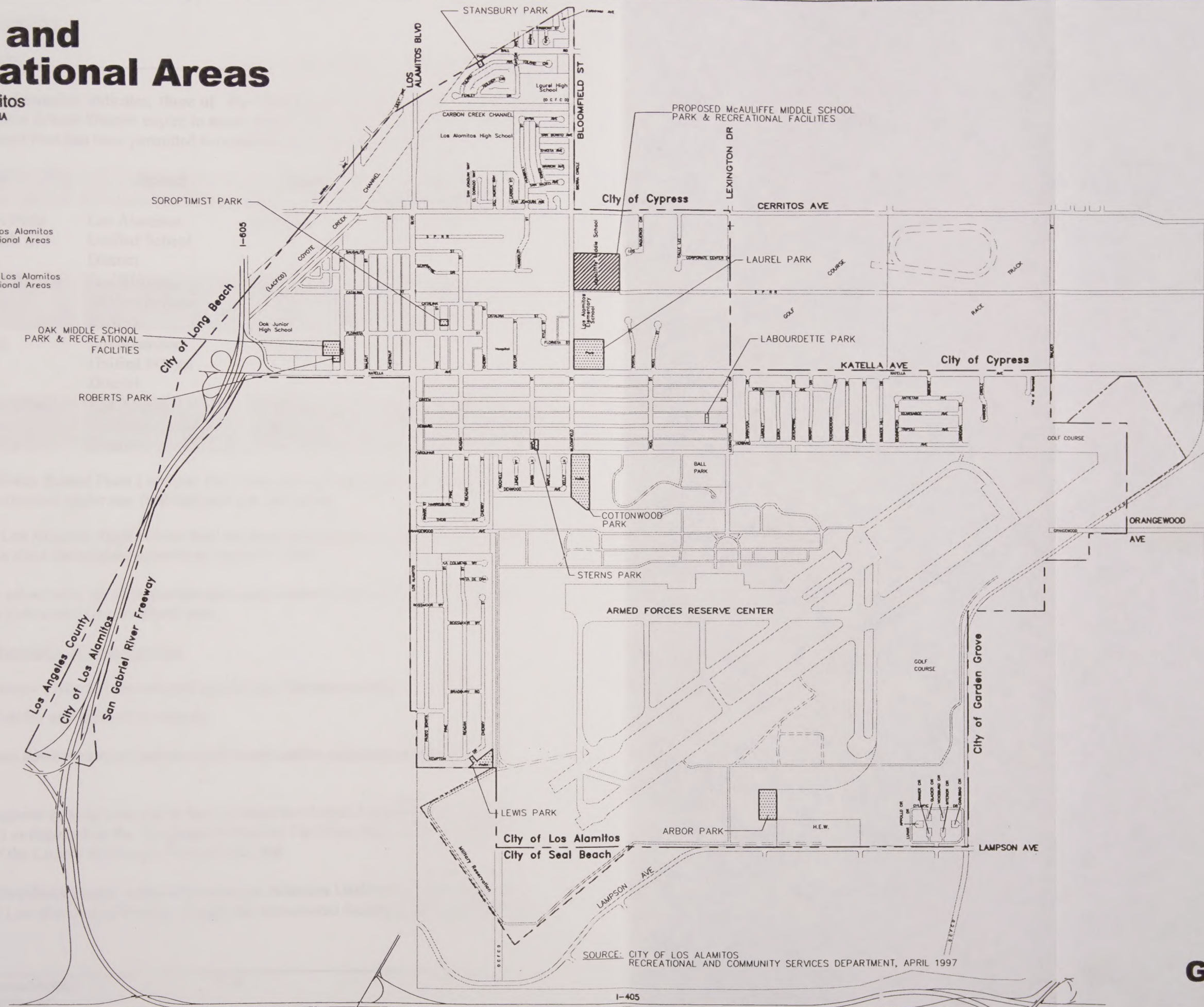
The following four Los Alamitos parks and recreational facilities have been secured for public use through the adoption of "facilities/joint use agreements." Use of these facilities is limited and none are available during school hours when school is in session.

Parks and Recreational Areas

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

- City Boundary
-  Existing City of Los Alamitos Park and Recreational Areas
-  Proposed City of Los Alamitos Park and Recreational Areas



SOURCE: CITY OF LOS ALAMITOS
RECREATIONAL AND COMMUNITY SERVICES DEPARTMENT, APRIL 1997



NOT TO SCALE



General Plan

FIGURE 4-1

As the following information indicates, three of the following facilities/joint use agreements with the Los Alamitos School District expire in seven years or less. Since 1990, use of the Los Alamitos High School Pool has been permitted to continue on a month to month basis.

Location	Agency	Term	Agreement Inception-Expiration
Oak Middle School Field Lighting/Play Area★ (14 acres)	Los Alamitos Unified School District	25 Years	1978 - 2003
Oak Middle School Bicycle Trail★	Los Alamitos Unified School District	16 Years	1987 - 2003
Oak Middle School Gymnasium	Los Alamitos Unified School District	"In Perpetuity"	1974
Los Alamitos High School Pool★★	Los Alamitos Unified School District	20 Years	1970 - 1990

- ★ The Oak Middle School Field Lighting/ Play Area and the Oak Middle School Bicycle Trail are authorized under one facilities/joint use agreement.
- ★★ Use of the Los Alamitos High School Pool has been permitted to continue on a month to month basis since the original agreement expired in 1990.

Public and private school sites are an important open space resource in Los Alamitos. Figure 4-2 displays the City's public and private school sites.

Future Parks and Recreational Opportunities

Opportunities for future parks and recreational uses in Los Alamitos include:

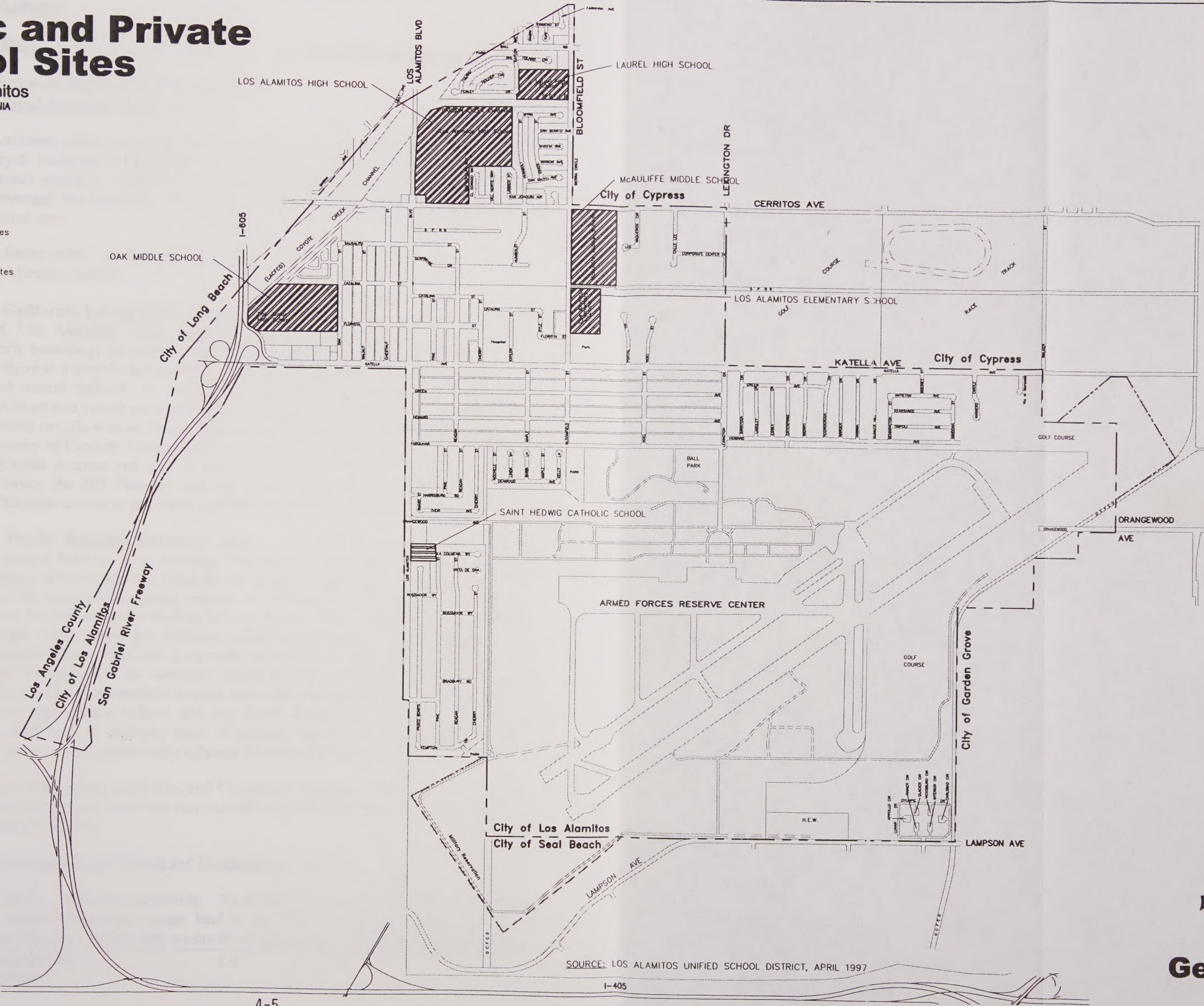
- 1) The use of utility and railroad easements;
- 2) Purchase and development of various small vacant and/or underutilized parcels in the City;
- 3) A future regional or local park site at the Los Alamitos Armed Forces Reserve Center (LAAFRC) as depicted on the "Regional Recreation Facilities Map" of the Recreation Element of the County of Orange General Plan; and
- 4) A cooperative development venture between Los Alamitos Unified School District and the City of Los Alamitos to develop a multi-use recreational facility at McAuliffe Middle School.

Public and Private School Sites

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

- City Boundary
- Public School Sites
- Private School Sites



General Plan

FIGURE 4-2

The following information discusses these opportunities:

- Utility and Railroad Easement Resources

Many cities and counties utilize utility and railroad easements for playing fields, picnic areas, pedestrian and bicycle trails, and natural habitats. In the City of Los Alamitos, the Coyote Creek flood control channel provides a pedestrian and bicycle trail, and natural habitat area. This General Plan encourages the continued development of utility easements for alternative open space and recreational uses.

Opportunities for future public open space and recreational use of utility and railroad easements in the City of Los Alamitos include:

- **Southern California Edison (SCE) Easement Areas.** Lands located along the Coyote Creek and Los Alamitos Creek flood control channels (situated along the City's northwesterly boundary) are prime resources for future open space and recreational use. Currently, there is a bicycle and pedestrian trail located along the east side of the Coyote Creek flood control channel. At several locations along the flood control channel there are large SCE-owned vacant parcels suitable for future recreational use. In particular, the three following parcels warrant future investigation: 1) the 1.62-acre parcel located at the northeast corner of Cerritos Avenue and the Coyote Creek Channel; 2) the parcel located south of Katella Avenue and east of the Coyote Creek Channel; and, 3) the parcel located between the 605 Freeway and Oak Middle School. It should be noted that adequate vehicular access to these sites could impede their future development.
- **Southern Pacific Railroad Easement Areas.** The railroad right-of-way easement, generally located between Los Alamitos Boulevard and the City's eastern boundary, became surplus railroad property when the use of the rail spur was discontinued in 1997. A portion of the easement extending easterly from Bloomfield Avenue was subsequently purchased by the Los Alamitos Unified School District. This easement is approximately fifty feet wide. Areas where the easement crosses public streets are not included in the proposed abandonment. This land is currently zoned CF (Community Facilities District). In particular, the portion of the easement located between McAuliffe Middle School and Laurel Park and east of Bloomfield Avenue could serve as a parking area for Laurel Park, Los Alamitos Elementary School, and any future development at McAuliffe Middle School. Laurel Park is critically short of parking spaces and the addition of on-site parking facilities would significantly enhance this valuable park resource.

The Open Space and Recreation, Land Use, and Circulation Elements focus on utility corridors and other easements that provide multi-use recreational uses. These areas provide linkages to the Coyote Creek regional bike trail.

1) Purchase And Development Of Vacant and Underutilized Parcels

Los Alamitos is virtually a built-out community. As of May 1996, there were only 5.73 acres of residentially and commercially-zoned vacant land in the City. In addition, there are several underutilized parcels (these are parcels with on-site development that is not maximized) in the City.

These vacant and underutilized parcels may offer opportunities for future park use if adequate funding can be secured for their purchase and development.

2) A Future Local or Regional Park Site at the Los Alamitos Armed Forces Reserve Center

There is a need for a park to serve the Carrier Row and New Dutch Haven neighborhoods. These neighborhoods abut the northern boundary of the Los Alamitos Armed Forces Reserve Center. The feasibility of using any surplus land at the Los Alamitos Armed Forces Reserve Center for a park warrants further investigation. In addition, if the use of the Los Alamitos Armed Forces Reserve Center should change in the future, then utilization of some of this land for a local or regional park would be desirable.

It should be noted that the “Regional Recreation Facilities Map” of the Recreation Element of the County of Orange General Plan depicts a future regional park site (minimum 100 acres) at the Los Alamitos Armed Forces Reserve Center.

In 1998, the City initiated the formation of the Los Alamitos Aquatics Foundation with the specific purpose of receiving private donations to assist with the renovation, operation, and maintenance of the 50-meter swimming pool at the Armed Forces Reserve Center. In cooperation with the Military Department of the State of California and the United States Water Polo Federation, and through private donations and funding from the County of Orange, the Foundation reopened the pool in December, 1998. The AFRC pool is now the permanent home of the United States Women’s National Water Polo team.

Plans are underway for additional improvements at the pool. These include the construction of restroom and shower facilities, and perimeter lighting. An allocation of additional monies from the State of California in 1999 is expected to allow for completion of these improvements in 1999-2000.

3) A Cooperative Development Venture between Los Alamitos Unified School District and the City of Los Alamitos to Develop a Multi-Use Recreational Facility at McAuliffe Middle School.

An opportunity exists for a cooperative development venture between Los Alamitos Unified School District and the City of Los Alamitos to develop a multi-use recreational facility at McAuliffe Middle School. Expanded sports fields and other recreational amenities would be a valuable resource at this facility.

Scenic Highways

In accordance with Government Code Section 65302 et. seq., a city must identify the scenic roadway corridors located within its boundaries. Currently, the City of Los Alamitos does not have any scenic roadway corridors.

2.0 City Of Los Alamitos Parks, Recreation & Community Services

The City of Los Alamitos Recreation & Community Services Department began its operation in June 1971.

The Recreation & Community Services Department is committed to meeting the diverse needs and interests of the Los Alamitos community. The Department provides a variety of programs and services, including cultural and social classes, community services, excursions, aquatics, special events and sports programs for all age groups.

Community Facilities

The 11,326 square foot Los Alamitos Community Center, located at 10911 Oak Street, is the focal point for recreational activities and community services. The Community Center includes rooms for arts, crafts, exercise and dance classes, and special programs. The activity rooms and kitchen facilities can accommodate banquets, receptions, meetings, seniors, and fund raising activities.

The Community Center is also the home of the Los Alamitos Senior Citizens' Club, which meets Thursdays from 10 a.m. to 3 p.m. In addition, the Senior Meals and Services Program operates Monday through Friday. Meals, support services, and transportation are available to all persons sixty years of age and older, and their spouses.

Adjacent to the Community Center is the Youth Center, completed in September, 1979, and staffed by personnel of the Los Alamitos Youth Center, Inc. The center provides students in grades 6-12 an opportunity to relax, listen to music and be with friends. Activities range from ping pong and sports leagues to dances, excursions and special events. The Los Alamitos Youth Center, Inc. is a private, non-profit United Way member agency serving Los Alamitos, Rossmoor, and Seal Beach since 1952.

Currently, parking facilities at the Los Alamitos Community Center are inadequate to serve the growing use of this facility. When the Community Center was developed in 1974, the project's development plan included the joint use of the adjacent General Telephone parking lot located to the west. Currently, the General Telephone parking lot is available to visitors of the Community Center during non-business hours. A formal agreement between General Telephone and the City, which addresses the expanded and permanent use of this joint use parking area, should be formalized.

Special Events

Special events offered by the Los Alamitos Recreation & Community Services Department include an Independence Day Celebration, Halloween Haunt, Holiday Program and Easter Program activities. Other special events offered during the year are hayrides, magic shows, costume contests, carnivals, Easter Egg Hunt, the Annual 10 Kilometer Run, the 5 Kilometer Run and the 5 Kilometer Walk held in February of each year.

3.0 Funding Mechanisms

Available Funding Mechanisms for the Maintenance, Acquisition, and Development of Parks and Recreational Facilities

The following are existing and potential funding mechanisms for acquiring and developing park facilities in Los Alamitos:

Parkland Dedication And In-Lieu Fee Ordinance: During May, 1989, the Los Alamitos City Council adopted Ordinance No. 1276 which revised the City's existing parkland dedication and in-lieu fee ordinance. This ordinance was adopted pursuant to the Quimby Act (Government Code Section 66477). The Quimby Act allows cities and counties to require the dedication of land and/or payment of fees to help meet the demand for recreation facilities created by occupants of new housing units.

Donations of Land or Money: When available, these resources are available for park purposes. Organized civic groups are capable of soliciting donations from both private individuals, as well as large corporations. Organized athletic leagues donate money and labor to assist in the construction of fields which the league can then use.

Joint Venture Projects: Although in most cases school districts are not financially able to assist in the development of recreation facilities, other than the bare necessities required for their own physical education programs, they often have land available where such facilities can be located. Park dedication fees can be used for the development of recreation facilities on school property. Public benefits result from such projects, including reduced cost of land, additional recreation facilities available which enables schools to expand their physical education programs, maximization of use of such facilities, joint use of parking lots, access roads, water service, and, much more.

Facilities/Joint Use Agreements: Currently, six Los Alamitos parks and recreational facilities have been secured for public use through the adoption of "facilities/joint use agreements". Due to their fiscal and public service advantages, the expanded use of facilities/joint use agreements is warranted. Expanded and future opportunities for facilities/joint use agreements exist with Los Alamitos Unified School District and the Los Alamitos Armed Forces Reserve Center.

Transportation Development Act Funds: These revenues, derived from the City's share of sales taxes, can be used to provide bicycle trails. In upcoming fiscal years, Los Alamitos may consider budgeting funds to prepare a bicycle trail master plan for the construction and maintenance of bicycle trails.

Park and Recreation Districts (independent and dependent): Special districts can be formed to provide parks and recreation facilities. In most cases, such districts can generate funds for maintenance and operation as well as capital improvements. The formation of a special district in Los Alamitos is recommended to provide for long-term maintenance and operation funding. Two of the most common types of special districts are discussed briefly below:

- 1 Independent District -- An independent district could be formed in Los Alamitos if two-thirds of the residents voted to levy a new tax or assessment. The tax/assessment revenues collected via the independent district must be used for maintenance and/or construction of parks and recreational facilities in the district. A park district such as this would elect its own board of directors, and be operated independently of the City and its operations.
- 2 Landscape and Lighting District -- This district is similar to a Community Facilities District. Landscape and Lighting Districts require a simple majority approval to be formed. Voter approval is only required when a certain percentage of residents protest the formation of the district. The district can provide for the acquisition, development, maintenance and operation of parks and recreational facilities.

CHAPTER 5 - CIRCULATION ELEMENT

Background Technical Report

INTRODUCTION

Scope and Purpose of the Circulation Element

The circulation element is one of seven State mandated elements of the General Plan and is intended to guide the development of the City's circulation system in a manner that is compatible with the land use element. A well planned circulation system is important and the State of California has mandated the adoption of a citywide Circulation Element since 1955.

The anticipated level and pattern of development by the Year 2010, as identified in the Land Use Element, and increased development in the surrounding areas will increase capacity demands on the City's roadways.

The Circulation Element is intended to guide decision-making in providing a safe, sensible and efficient circulation system for the City. The current State mandate for a Circulation Element states that the General Plan shall include:

“....a circulation element consisting of the general location for proposed major thoroughfares, transportation routes, terminals and other local public utilities and facilities, all correlated with the land use element of the plan.”

The “General Plan Guidelines” (Section 65302 of the Government Code), published by the State of California, Office of Planning and Research, suggests that the policies and plan proposals of the Circulation Element should:

- a. Coordinate the transportation and circulation system with planned land uses;
- b. Promote the efficient transport of goods and the safe and effective movement of all segments of the population;
- c. Make efficient use of existing transportation facilities; and,
- d. Protect environmental quality and promote the wise and equitable use of economic and natural resources.

Insofar as they pertain to the community, the following subjects are included in the Circulation Element of the General Plan:

- Streets and Highways
- Transit and Rapid Transit
- Railroads
- Bicycle and Pedestrian Facilities
- Truck Route System
- Commercial, General
and Military Airports
- Petroleum Pipelines
- Water Service
- Sanitary Sewers
- Storm Drains
- Electrical Service
- Natural Gas Service
- Telephone Service
- Cable Television

Relationship to other General Plan Elements

The Circulation Element portrays the roadway system needed to serve traffic generated by uses permitted in the Land Use Element, as well as increased development in the surrounding areas. The Circulation Element is closely linked with the Noise Element since traffic forecasts are used in conjunction with other data to determine noise contours for the General Plan uses.

The Circulation Element is also related to the Seismic/Public Safety Element and the Open Space/Parks/Conservation Element. The Public Safety Element addresses evacuation routes and minimum roadway widths to accommodate city residents in the event of a catastrophe, and the Open Space/Parks Conservation Element identified landscaping standards for roadways, scenic highways and multi-use recreation trails.

Because of its transportation-related issues, the Growth Management Element also has a relationship with the Circulation Element. The Growth Management Element mandates that growth and development be based upon the City's ability to provide an adequate circulation system. For example, the Element must contain a policy that establishes a minimum Level of Service (LOS) to be maintained at intersections impacted by new development. In addition, the Element must contain a policy to promote Transportation Demand Management (TDM) measures in the City of Los Alamitos and must contain a comprehensive phasing program to ensure coordination between new development and roadway capacities. These issues will be addressed in a consistent fashion between the Circulation and Growth Management Elements.

Organization of the Circulation Element

The Circulation Element is comprised of two components: The Background Technical Report (BTR) and the Policy document. The Background Technical Report contains summary information on the existing and future conditions of the system, relevant plans and programs which influence circulation in Los Alamitos and the goal and policy statements corresponding to each component. Following these sections, noteworthy characteristics of each component of the system are discussed.

1.0 Regional Setting

The City of Los Alamitos is located in western Orange County, generally bounded to the west by Interstate 605 and, to the north by Cerritos Avenue, to the south by Lampson Avenue and to the east by Walker Street. The Armed Forces Reserve Center (AFRC) occupies approximately one-half the total area of the City and forms the southeastern boundary. Los Alamitos Racetrack in the City of Cypress is located on the east and northeastern boundary and provides seasonal flux traffic during the racing season as well as year-round traffic associated with satellite wagering. Adjacent to the eastern border of Los Alamitos in the Katella Avenue corridor is Cypress Business Park which provides concentrated employment opportunities and generates significant traffic through Los Alamitos.

Regional access to the City is provided by Interstate 605 and Interstate 405. Major arterials carrying through traffic across City boundaries are Katella Avenue, Cerritos Avenue, Ball Road for east/west orientation, and Los Alamitos Boulevard for north/south.

2.0 Existing Traffic Conditions**2.1 Existing Roadway Conditions**

The City of Los Alamitos Street and highway system is presented in Figure 5-1.

2.2 City Arterial Classifications

The arterial highways component of the Circulation Element is part of the County of Orange Master Plan of Arterial Highways (MPAH) which was designed to facilitate the movement of people and goods throughout the County. The City of Los Alamitos has adopted the County MPAH for all circulation roadways, Figure 5-2 depicts the MPAH within the City.

Katella Avenue has been designated as an Orange County Transportation Authority (OCTA) Smart Street by the City. The Smart Street classification qualifies this arterial for OCTA funding for roadway segment and intersection improvements to provide smoother traffic flow. Adoption of the Smart Street classification as identified in the MPAH will generate funding to make such improvements.

The MPAH identifies the following roadway classifications for arterials within the City of Los Alamitos:

- Smart Street - The Smart Street is designated as a six to eight lane divided roadway with a maximum right-of-way width of 122 feet. The Smart Street eight lane facility is estimated to have a design capacity of 72,000 vehicles per day in the eight lane configuration (west of Los Alamitos Blvd.) and 60,000 vehicles per day in the six lane configuration (east of Los Alamitos Blvd.).
- Major Arterial - A major arterial is designed as a six lane divided roadway, with a typical right-of-way width of 120 feet. A major arterial is designed to accommodate a maximum of 54,000 daily vehicle trips.
- Primary Arterial - A primary arterial is designated as a four lane divided (physical median, two double-yellow lines, and/or continuous left-turn lane) roadway with a typical right-of-way width of 100 feet. A primary arterial is designed to accommodate a maximum of 36,000 daily vehicle trips.
- Secondary Arterial - A secondary arterial is designed as a four lane undivided (no median) roadway with a typical right-of-way width of 80 feet. A secondary arterial is designed to accommodate a maximum of 24,000 daily vehicle trips.

Figure 5-3 presents the general street and highway classifications for Los Alamitos.

2.3 Signalized Intersections

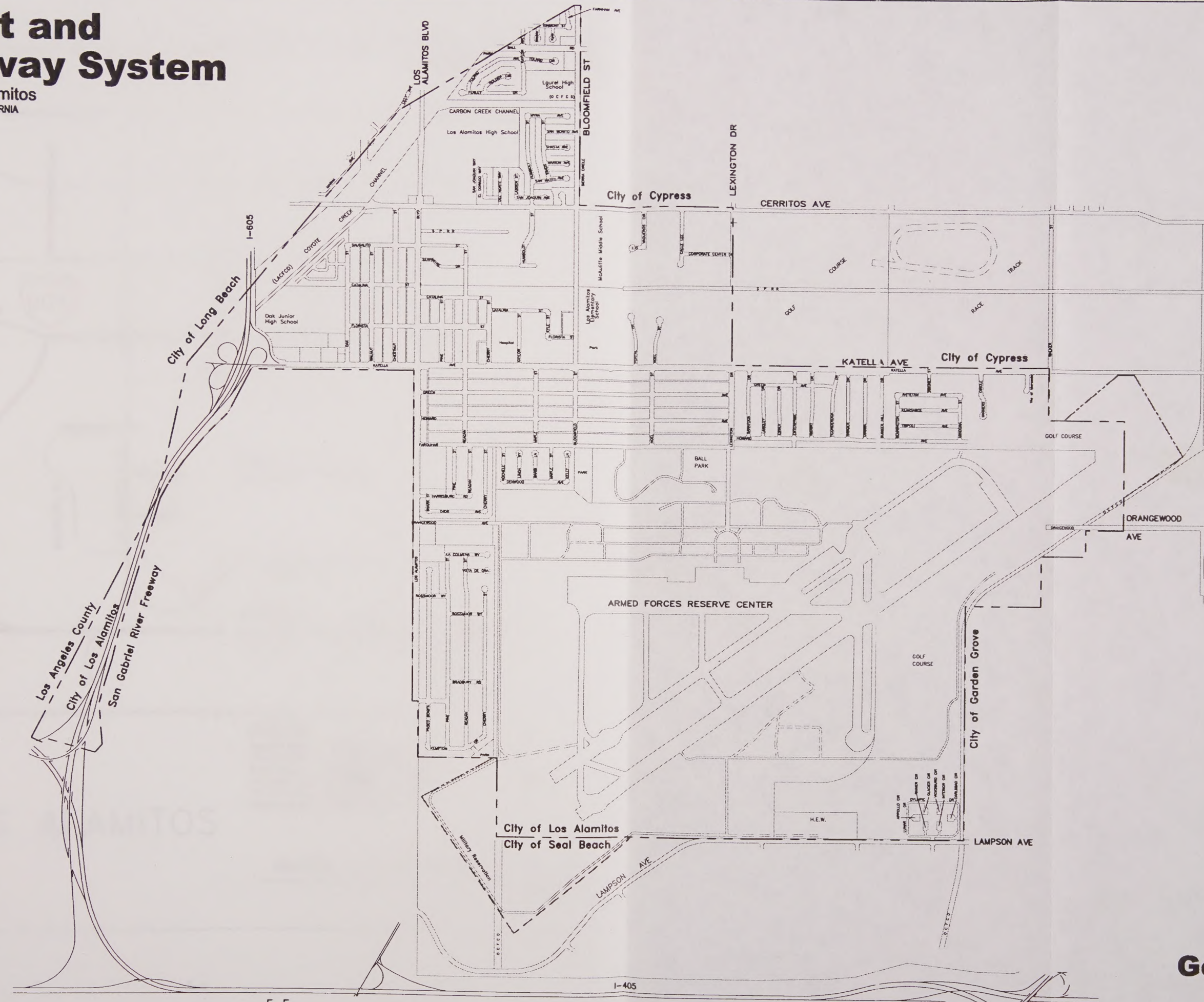
The city of Los Alamitos currently has 18 intersections which are controlled by a traffic signal. These locations are identified as follows and are depicted in Figure 5-4.

Street and Highway System

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

--- City Boundary



NOT TO SCALE

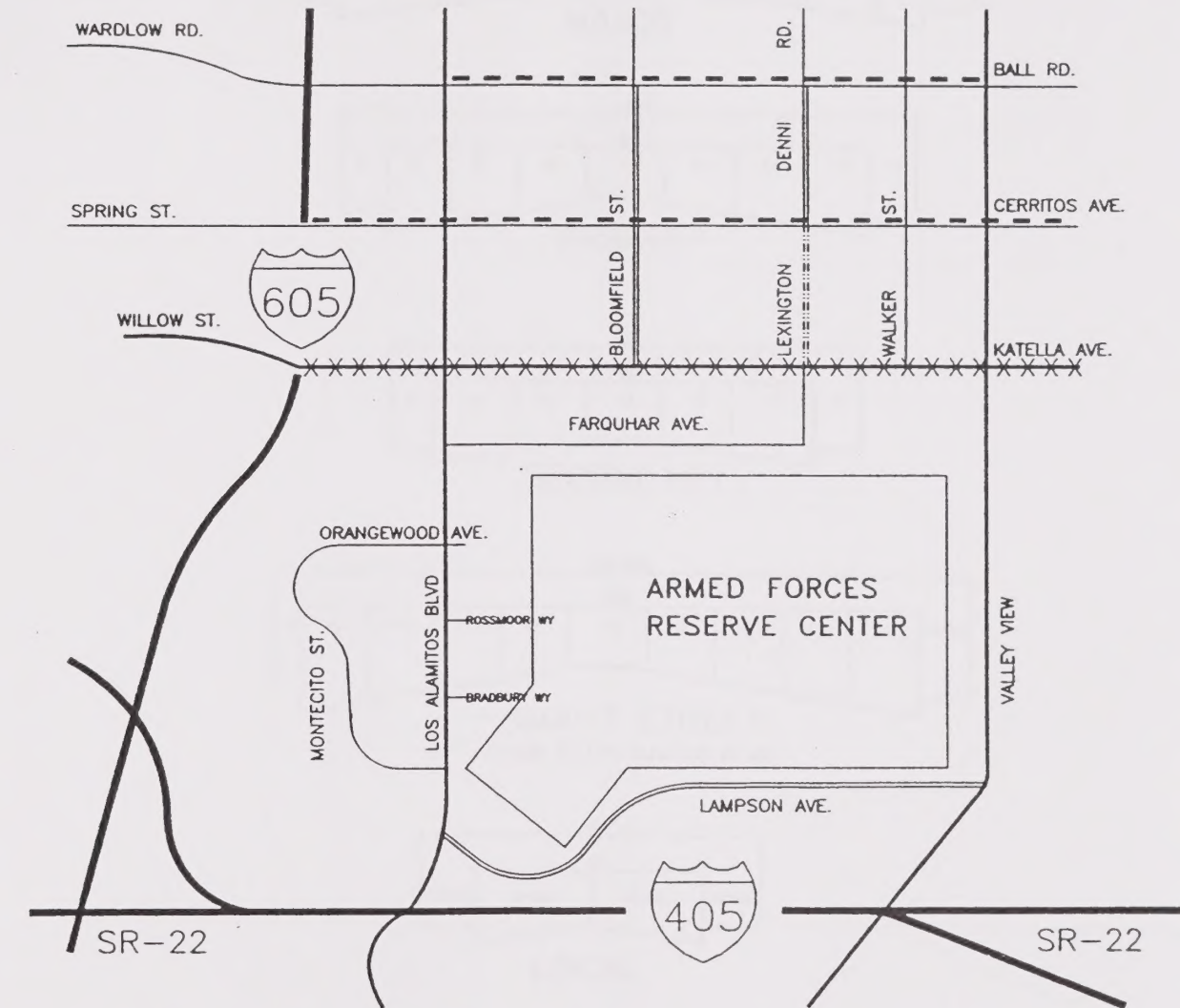


General Plan

FIGURE 5-1

The City of Los Alamitos General Plan

GENERAL PLAN



LEGEND:

- FREEWAY
- MAJOR HIGHWAY---ESTAB.
- PRIMARY---ESTAB.
- SECONDARY---ESTAB.
- SECONDARY---PROP
- XXXXXX - SMART STREET



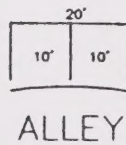
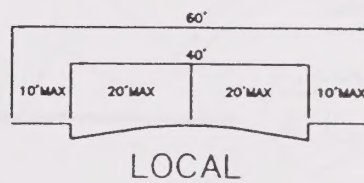
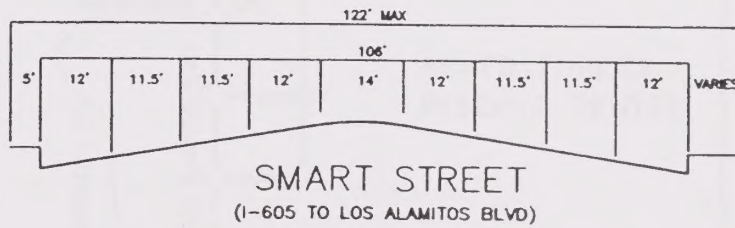
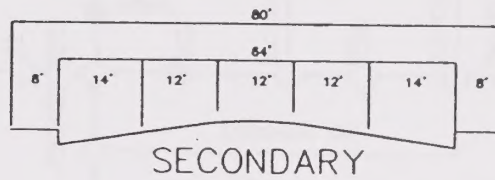
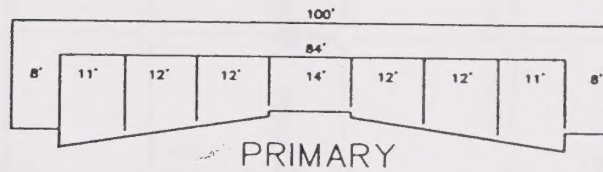
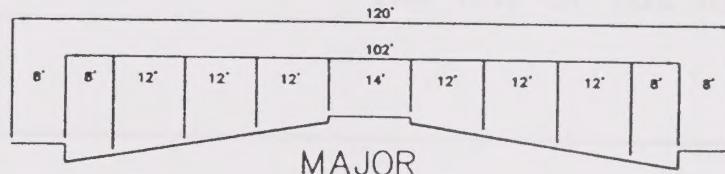
CITY OF LOS ALAMITOS

MASTER PLAN OF ARTERIAL HIGHWAYS

FIGURE 5-2

The City of Los Alamitos General Plan

GENERAL PLAN



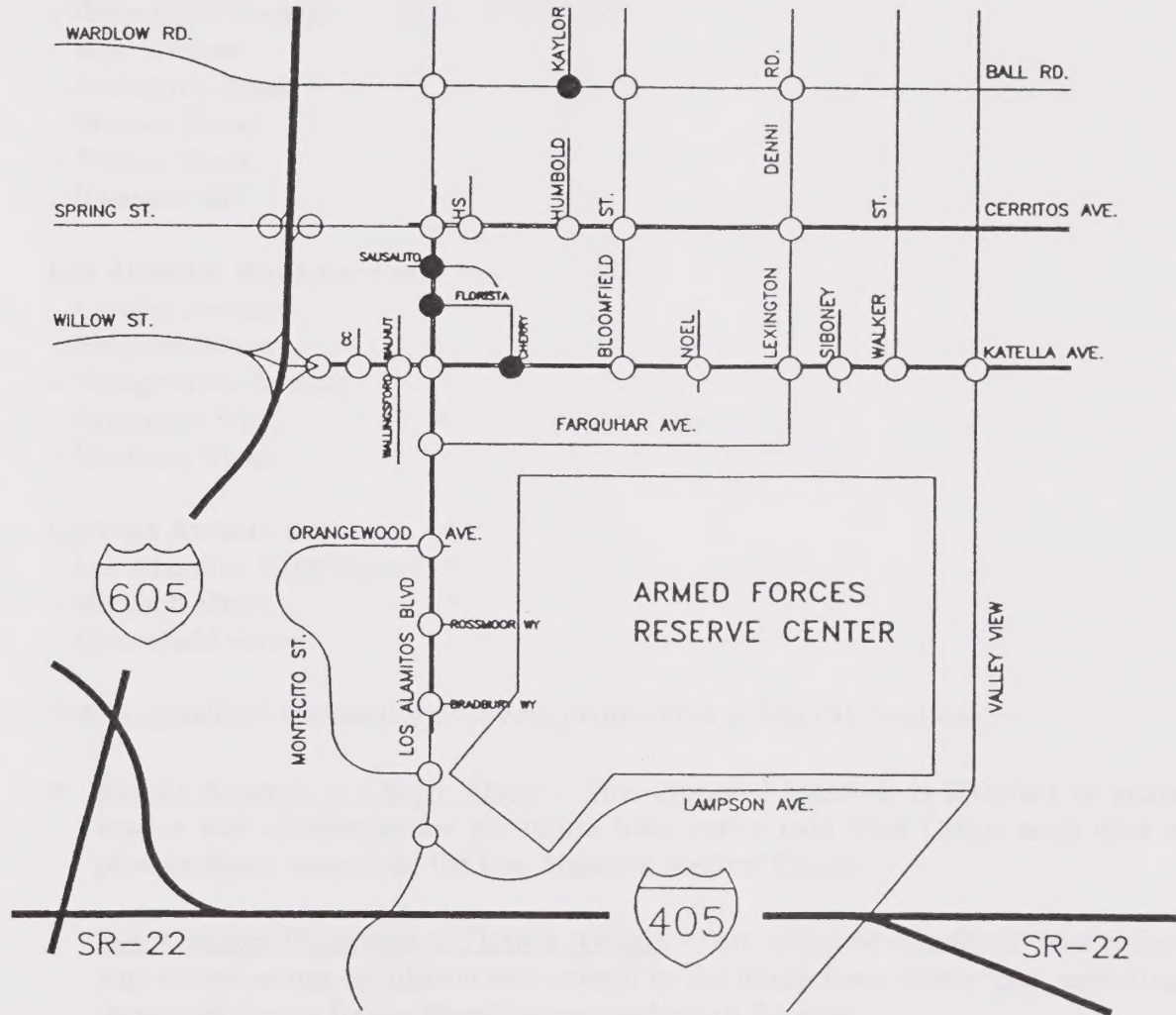
CITY OF LOS ALAMITOS

ARTERIAL HIGHWAY CLASSIFICATION

FIGURE 5-3

The City of Los Alamitos General Plan

GENERAL PLAN



LEGEND:

- ===== COORDINATED SIGNAL SYSTEM
- EXISTING SIGNAL LOCATION
- POTENTIAL SIGNAL LOCATIONS UNDER INVESTIGATION



CITY OF LOS ALAMITOS

EXISTING AND FUTURE TRAFFIC SIGNAL LOCATIONS

FIGURE 5-4

Katella Avenue at:

- Civic Center
- Wallingsford/Walnut
- Los Alamitos Boulevard
- Bloomfield Avenue
- Noel Avenue
- Lexington Street
- Siboney Street
- Walker Street
- Interstate 605

Los Alamitos Boulevard at:

- Cerritos Avenue
- Farquhar Street
- Orangewood Avenue
- Rossmoor Way
- Bradbury Road

Cerritos Avenue at:

- Los Alamitos High School
- Humbolt Street
- Bloomfield Street

Future signalized intersections are being considered at four (4) locations:

- Katella Avenue at Cherry Street - This proposed location is intended to provide control and circulation for the future town center (old Post Office area) core and provide direct control for the Los Alamitos Medical Center.
- Los Alamitos Boulevard at Florista Avenue - This proposed signalized intersection is part of enhancing circulation and control in the future town center area, specifically increasing access for the Pine/Florista quadrant of the area.
- Los Alamitos Boulevard at Sausalito Avenue - This proposed signalized intersection is also part of enhancing circulation and control in the town center area, including access to the industrial areas west of Los Alamitos Boulevard.
- Ball Road at Kaylor Street - This proposed signal is intended to enhance right-of-way control and access for Kaylor Street traffic.

Each of these proposed signals is intended to increase accessibility to the adjacent areas and assist in the promoting economic revitalization.

As depicted in Figure 5-4, three corridors are identified for upgraded, state-of-the-art signal interconnect systems. These include: 1.) Cerritos Avenue, 2.) Los Alamitos

Boulevard, and 3.) Katella Avenue. Interconnecting these high traffic volume corridors will assist in the maintenance of good traffic flow. The Katella Avenue interconnect will be accomplished in conjunction with traffic signal modification improvements related to the Smart Street project. The City should pursue additional funding for interconnecting the Los Alamitos and Cerritos Avenue corridors.

3.0 Performance Criteria

Evaluating the ability of the circulation system to serve the desired future land uses requires the establishment of suitable “performance criteria.” These are the means by which future traffic volumes can be compared to future circulation system capacity and the adequacy of that circulation system assessed.

Performance criteria have a policy component which establishes a desired level of service (LOS) and a technical component which specifies how traffic forecast data can be used to measure the achievement of the criteria. The performance criteria used for evaluating volumes and capacities on the City Street and highway system are summarized in a following section.

The City of Los Alamitos has established level of service (LOS D) as the threshold level of service. The City recognizes that not all intersections within the City can meet the threshold LOS D. Therefore, the City should establish a critical intersection list of intersections not meeting LOS D. For an intersection to be placed on the list, the City Council must find that improvements necessary to meet the target LOS D are not feasible because of one or more of the following reasons: 1.) The cost of the necessary improvements exceeds available funding sources, or 2.) The design of the necessary improvements is not compatible with surrounding land uses. For ADT roadway segment volumes, a level of service “D” standard is used to monitor capacity needs.

The following describes the traffic flow quality for the different levels of service.

Level of Service

Level of Service (LOS) is a professional industry standard by which the operating conditions of a given roadway segment or intersection are measured. Level of Service is defined on a scale of A to F, where;

- LOS A represents free flowing traffic, conditions with no restrictions on maneuvering or operating speeds, low traffic volumes and high speeds.
- LOS B represents stable flow, more restrictions, operating speeds beginning to be affected by increasing traffic volumes.
- LOS C represents stable flow, more restrictions, speed and maneuverability more closely controlled by higher traffic volumes.

- LOS D represents conditions approaching unstable flow, increased delay, increase in traffic volumes profoundly affects arterials. Drivers at intersections frequently have to wait through more than one red signal.
- LOS E represents unstable flow, near capacity, substantial delay and some stoppages. Drivers at signals wait through more than one red signal and frequently through several red signals.
- LOS F represents forced flow, jammed conditions, many stoppages, waiting through several signal changes and very low operating speeds.

The city of Los Alamitos establishes a threshold value of LOS D or better at intersections and on roadway link segments.

These level of service descriptions are based on the Intersection Capacity Utilization (ICU) method. The ICU method measures the ratio of intersection demand to capacity. The ICU is calculated by adding the ratios of demand to capacity for the critical movements at an intersection. For roadway link segments, the ratio is determined by dividing the 24 hour traffic volume by the stated capacity for the appropriate roadway classification.

ICU/LOS Table

Intersection Capacity Utilization (ICU)/ Level of Service (LOS)

<u>Level of Service</u>	<u>Volume to Capacity Ratio</u>
LOS A	0.00 - 0.60
LOS B	0.61 - 0.70
LOS C	0.71 - 0.80
LOS D	0.81 - 0.90
LOS E	0.91 - 1.00
LOS F	> 1.00

Arterial Highway Capacity Values
Arterial Highway Link Capacity Values - Level of Service

Type of Arterial	Lane Configuration	Level of Service*					
		A	B	C	D	E	F
Smart Street	6 lanes, divided	-	-	-	-	72,000	-
	8 lanes, divided	-	-	-	-	60,000	-
Major	6 lanes, divided	36,000	40,400	45,000	49,500	54,000	-
Primary	4 lanes, divided	24,000	27,000	30,000	33,000	36,000	-
Secondary	4 lanes, undivided	16,000	18,000	20,000	22,000	24,000	-
Commuter	2 lanes, undivided	5,000	7,500	10,000	12,500	15,000	-

* The volumes shown in the table above are daily two-way traffic volumes and assume that the highways are built to their ultimate typical section.

The City of Los Alamitos is included in the County of Orange Congestion Management Plan (CMP), a state mandated program adopted as Assembly Bill 471. Improvements identified in the Plan may be partially funded through the nine-cent-per-gallon gas tax levied with passage of Proposition 111. The CMP was created for the following purposes:

- To link land use, transportation and air quality decisions.
- To develop a partnership among transportation decision makers on devising appropriate transportation solutions that include all modes of travel; and
- To propose transportation projects, which are eligible to compete for state, gas tax funds.

Katella Avenue is a CMP highway and the Katella Avenue/I-605 intersection is identified as a CMP intersection (Intersection No. 21) within Los Alamitos.

Participation in the Congestion Management Plan program requires local input to the CMP, transit monitoring, implementation of a Transportation Demand Management (TDM) Ordinance, a land use analysis program, participation in the County deficiency plan, and adoption of an annual self-certification resolution and local implementation report. Appendix D of the CMP sets forth guidelines for CMP Transportation Impact Analysis (TIA). In general, a CMP TIA is required for projects necessitating preparation of an Environmental Impact Report.

Signalized intersections were analyzed for existing and future conditions. Existing conditions assumed current intersection lane geometry while the future analysis assumed that intersections are built to their ultimate lane configurations. Table 5-1 presents the existing intersection geometry and Figure 5-5 shows the existing AM/PM peak hour LOS conditions. Table 5-2 details future (Year 2010) intersection lane configurations, and Figure 5-6 shows future intersection AM/PM peak hour LOS. The future intersection

LOS conditions reflected in Figure 5-6 include ambient traffic growth and traffic related to future development projects in Los Alamitos and known projects within the City of Seal Beach. Table 5-3 summarizes the existing and future AM/PM peak hour LOS conditions at the key signalized intersections.

Daily roadway link LOS conditions were also determined for existing and future conditions. Traffic volumes for existing conditions are depicted in Figure 5-7. Existing arterial highway link LOS conditions are shown in Figure 5-8. Figure 5-9 depicts the daily traffic volumes projected for future (Year 2010) conditions. The LOS calculations for both conditions are summarized in Table 5-4 and shown in Figure 5-10. The future arterial roadway lane conditions are shown in Figure 5-11.

The City of Los Alamitos recognizes that not all intersection within the City can meet a Level of Service target of "D". The City will establish, therefore, a critical intersection list, which consists of intersections, which do not meet the target LOS of "D" at peak periods only. In order for an intersection to be placed on the City's critical list, the City Council must find that improvements to meet the target LOS "D" are not feasible for one or more of the following reasons:

1. the cost of the necessary improvements exceeds available funding sources; or
2. the design of the necessary improvements is not compatible with the surrounding land uses.

4.0 Town Center Area

The City of Los Alamitos has generally been built out to maximum land use densities. However, reconstruction of existing buildings is expected to occur in a town center focal area which is generally bounded by Los Alamitos, Cerritos, Bloomfield and Katella (Exhibit A). A vicinity map of the town center area is depicted in Figure 5-12 and also shows projects situated in the City of Seal Beach.

Proposed development in this area is expected to include: expansion of Trend Offset Printing utilizing the abandoned Southern Pacific Railroad spur; the potential development of light industrial uses west of Los Alamitos Boulevard and south of Cerritos Avenue; new uses and buildings within the quadrant bounded by Florista, Pine, Los Alamitos and Katella; and potential new development on vacant and underutilized properties along Los Alamitos Boulevard both north and south of Sausalito. The traffic volumes associated with these developments have been included in the Year 2010 projections for intersections (Figure 5-6) and arterial roadway link volumes (Figure 5-9).

The development of a church, a park site and commercial properties in Seal Beach near Los Alamitos Boulevard and Lampson Avenue has also been considered for future conditions and their impacts to Los Alamitos roadways. The location of same are shown in Figure 5-12.

Several opportunities exist to enhance access to the area, provide controlled (signalized) intersections, and correlate traffic capacity of roadways with employment and residential densities. Potential signalization of three intersections within this core include Los Alamitos/Sausalito, Los Alamitos/Florista, and Katella/Cherry. These signalization projects will increase access potential and improve safety to the town center core area.

Circulation for the town center can also be increased by connecting Cerritos Avenue with the extension of Reagan Street. This will allow vehicles north of Cerritos Avenue to enter the town center core without creating lengthy trip routes and/or congestion on Los Alamitos Boulevard and Katella Avenue intersections.

Improvements to Katella Avenue between Los Alamitos and Bloomfield are recommended to include channelization of traffic through the use of two-way left turn lanes and raised medians for greater control. Changes to the Katella Avenue channelization is intended to accommodate local needs through orderly access to adjacent land uses while preserving capacity and safety. A conceptual layout of this segment is depicted in Figure 5-13. It is recommended that this concept be incorporated into the plans for the Katella Smart Street improvements which are currently in design.

5.0 Bikeways

Bicycle facilities within the City of Los Alamitos are classified and summarized as follows:

- | | |
|-----------|--|
| Class I | This facility is completely separated from motorized vehicular traffic. Generally, these facilities are paved for two directions of bicycle traffic and prohibit pedestrian and motorized vehicle traffic (mopeds, etc.). |
| Class II | This facility consists of a striped (painted) bike lane outside the motorized vehicular travel way. The bike lane may be provided between the adjacent vehicle travel lane and a parking lane if sufficient street width exists. |
| Class III | This facility requires bicycles and motorized vehicles to share the roadway without pavement delineation. These routes are designated by signage only. |

Within the City of Los Alamitos, there are no Class I facilities and limited Class II and III routes. Figure 5-14 depicts the existing and proposed bicycle routes within the City.

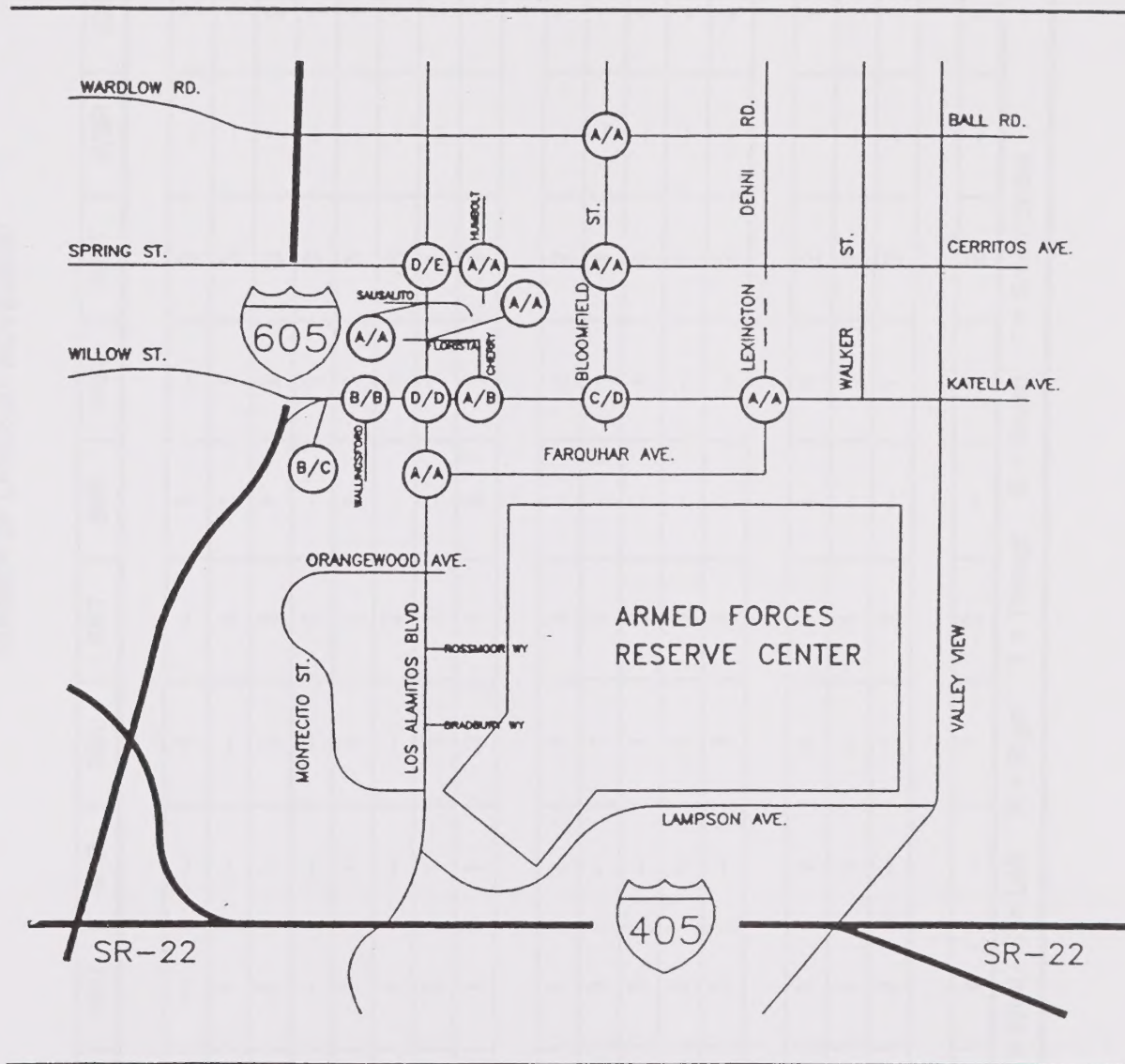
As shown in Figure 5-14, Class II facilities exist on Ball Road between the westerly City boundary and Los Alamitos Boulevard, and on Bloomfield Street between Katella Avenue and Ball Road. Class III facilities exist on Ball Road between the westerly City boundary and Bloomfield Street and on Cerritos Avenue from Interstate 605 to east of Lexington. There have been past studies for bicycle corridors along Katella Avenue and Los Alamitos Boulevard, however, these roadways were determined to be incompatible with shared bicycle usage due to high traffic volumes and inadequate rights-of-way.

TABLE 5-1
SUMMARY OF INTERSECTION GEOMETRY FOR EXISTING CONDITIONS

INTERSECTION	NUMBER OF LANES BY MOVEMENT											
	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
Katella Avenue * at:												
➤ Civic Center	--	--	--	1	--	1	--	3	--	1	4	--
➤ Wallingsford/Walnut	--	2	--	1	1	1	1	3	1	1	4	--
➤ Los Alamitos Blvd	2	3	1	1	3	1	2	3	1	2	3	1
➤ Bloomfield Avenue	--	1	--	1	1	1	1	3	--	1	3	--
➤ Noel Avenue	--	1	--	--	2	--	1	3	--	1	3	--
➤ Lexington Street	--	2	--	--	1	--	1	3	--	1	3	1
➤ Siboney Street	1	1	1	2	1	3	1	3	1	2	3	--
Los Alamitos Blvd at:												
➤ Cerritos Avenue	1	2	1	1	2	0	1	2	--	1	2	--
➤ Farquhar Street	--	3	--	1	3	--	1	--	1	--	--	--
➤ Orangewood Avenue	1	3	--	1	3	--	--	1	--	--	2	--
Cerritos Avenue at:												
➤ Los Alamitos High	--	1	--	1	--	1	1	2	---	1	2	--
➤ Humbolt Street	--	1	1	--	1	--	1	2	--	1	2	--
➤ Bloomfield Street	1	2	--	1	2	--	1	2	--	1	2	--
Ball Road at:												
➤ Bloomfield Street	1	2	--	1	2	--	1	2	--	1	2	--
N = North S = South E = East W = West L = Left R = Right T = Through B = Bound * = Smart Street												

The City of Los Alamitos General Plan

CITYWIDE GENERAL PLAN



LEGEND:

X/X : AM PK HR / PM PK HR
LEVEL OF SERVICE (LOS)

CITY OF LOS ALAMITOS

EXISTING AM PK. HR./PM PK. HR. INTERSECTION LEVEL OF SERVICE (LOS)

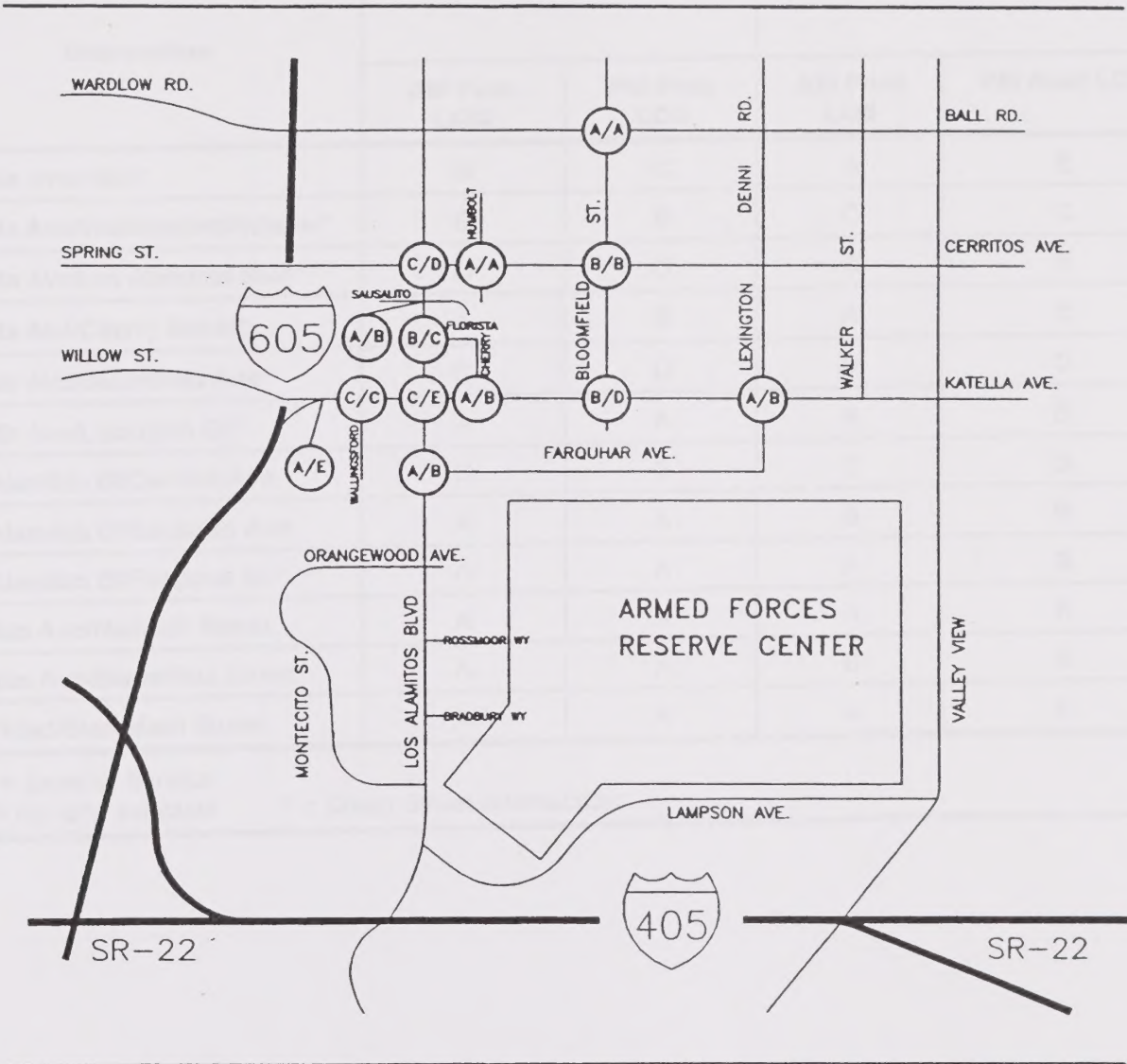
FIGURE 5-5

TABLE 5-2
SUMMARY OF INTERSECTION GEOMETRY FUTURE CONDITIONS

INTERSECTION	NUMBER OF LANES BY MOVEMENT											
	NBL	NBT	NBR	SBL	SBT	SBR	WBL	WBT	WBR	EBL	EBT	EBR
Katella Avenue * at:												
➤ Civic Center	--	--	--	1	--	1	--	3	--	1	4	--
➤ Wallingsford/Walnut	1	1	--	--	1	1	1	3	--	1	4	--
➤ Los Alamitos Blvd	2	3	1	2	3	1	2	3	1	2	3	1
➤ Cherry Street	--	--	--	--	1	--	1	3	--	1	3	--
➤ Bloomfield Avenue	1	1	1	1	1	1	1	3	--	1	3	--
➤ Noel Avenue	--	1	--	--	2	--	1	3	--	1	3	--
➤ Lexington Street	1	2	1	1	1	--	1	3	--	1	3	1
➤ Siboney Street	1	1	1	2	1	3	1	3	1	1	3	1
Los Alamitos Blvd at:												
➤ Cerritos Avenue	2	3	1	1	3	--	2	2	--	1	2	1
➤ Sausalito Avenue	1	3	--	1	3	--	1	1	--	1	1	--
➤ Florista Avenue	1	3	--	1	3	--	1	1	--	1	1	--
➤ Farquhar Street	--	3	--	1	3	--	--	1	--	--	1	--
➤ Orangewood Avenue	1	3	--	1	3	--	--	1	--	--	2	--
Cerritos Avenue at:												
➤ Los Alamitos High	--	1	1	1	--	1	1	2	1	1	2	--
➤ Humbolt Street	--	1	1	--	1	--	1	2	--	1	2	--
➤ Bloomfield Street	1	2	--	1	2	--	1	2	--	1	2	--
Ball Road at:												
➤ Bloomfield Street	1	2	--	1	2	--	1	2	--	1	2	--
N = North S = South E = East W = West L = Left R = Right T = Through B = Bound * = Smart Street												

The City of Los Alamitos General Plan

CITYWIDE GENERAL PLAN



LEGEND:

x/x : AM PK HR / PM PK HR
LEVEL OF SERVICE (LOS)

CITY OF LOS ALAMITOS

FUTURE YEAR 2010 AM PK. HR./PM PK. HR. INTERSECTION LEVEL OF SERVICE (LOS)

FIGURE 5-6

TABLE 5-3
SUMMARY OF EXISTING & FUTURE SIGNALIZED INTERSECTION OPERATION

Intersection	Existing Conditions (1997)		Future Conditions	
	AM Peak LOS	PM Peak LOS	AM Peak LOS	PM Peak LOS
Katella Ave/I-605*	B	C	A	E
Katella Ave/Wallingsford/Walnut*	B	B	C	C
Katella Ave/Los Alamitos Blvd*	D	D	C	E
Katella Ave/Cherry Street*	A	B	A	B
Katella Ave/Bloomfield Ave*	C	D	B	D
Katella Ave/Lexington St*	A	A	A	B
Los Alamitos Bl/Cerritos Ave	D	E	C	D
Los Alamitos Bl/Sausalito Ave	A	A	B	B
Los Alamitos Bl/Farquhar St	A	A	A	B
Cerritos Ave/Humbolt Street	A	A	A	A
Cerritos Ave/Bloomfield Street	A	A	B	B
Ball Road/Bloomfield Street	A	A	A	A

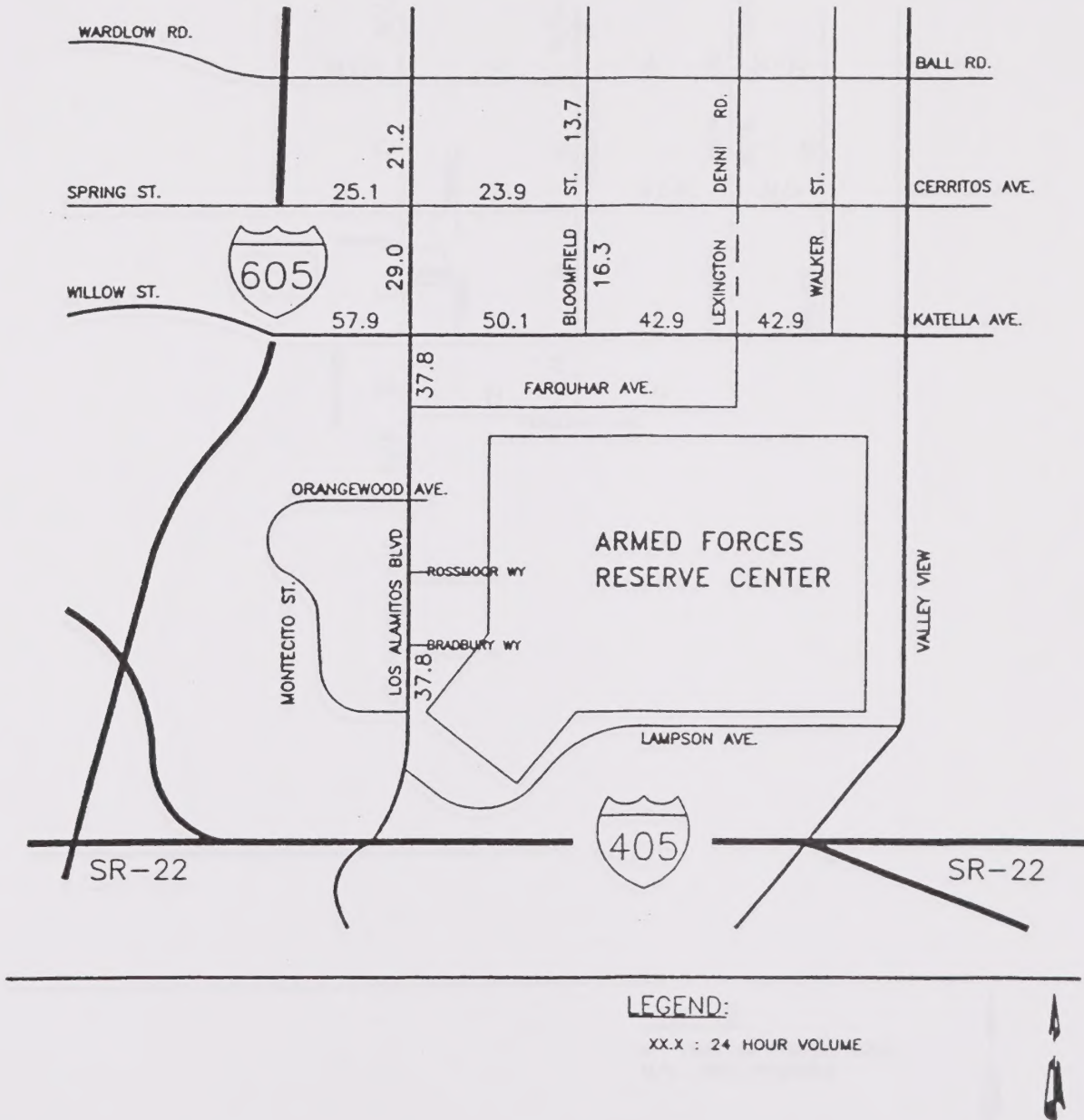
LOS = Level of Service

N/A = No data available

* = Smart Street Intersection

The City of Los Alamitos General Plan

GENERAL PLAN



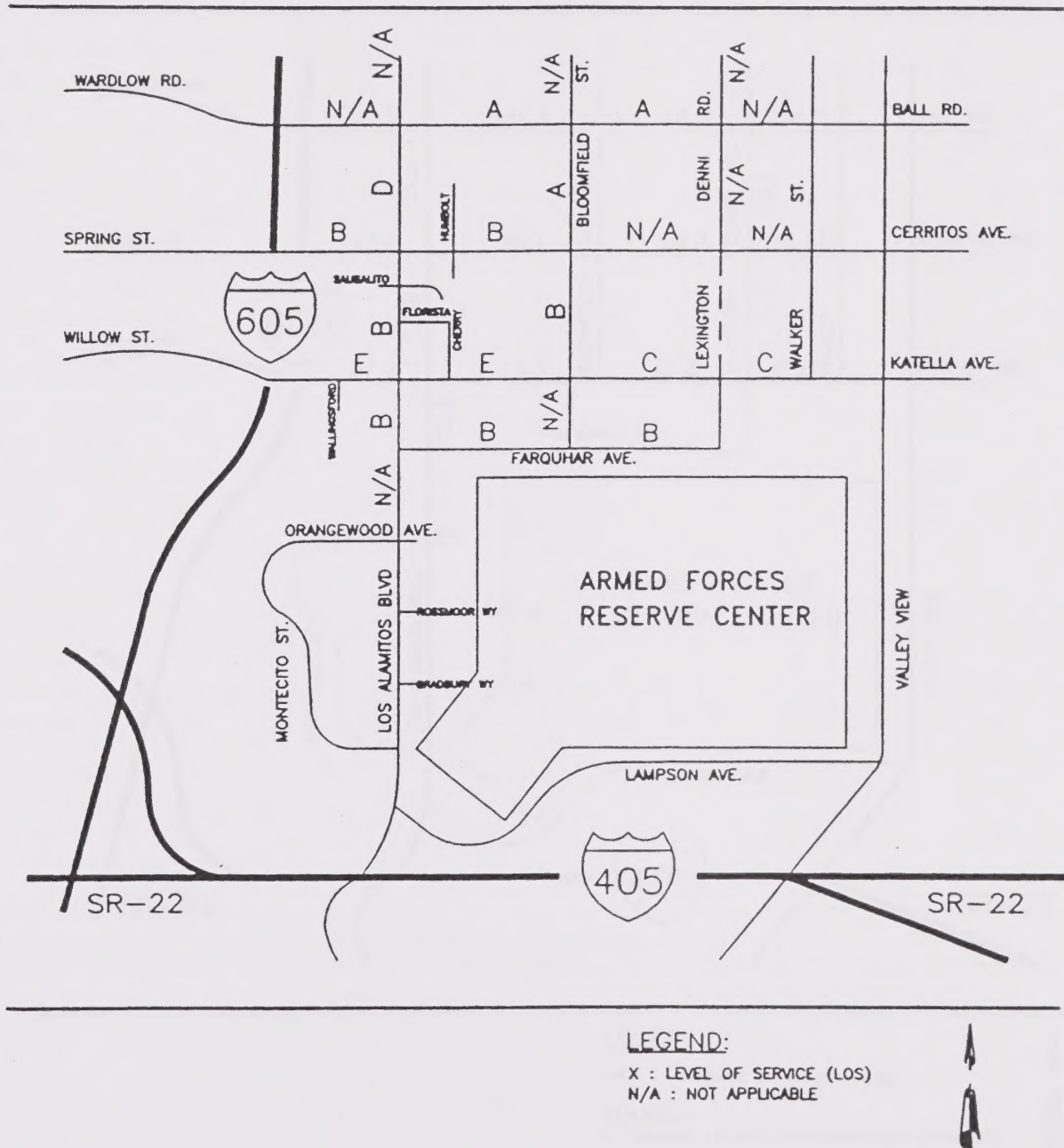
CITY OF LOS ALAMITOS

EXISTING DAILY TRAFFIC VOLUMES

FIGURE 5-7

The City of Los Alamitos General Plan

GENERAL PLAN

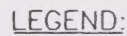


CITY OF LOS ALAMITOS

EXISTING ARTERIAL HIGHWAY LINK LEVEL OF SERVICE

FIGURE 5-8

GENERAL PLAN



SOURCE:

-

FUTURE (2010) DAILY TRAFFIC VOLUMES

5-23

**TABLE 5-4
SUMMARY OF EXISTING & FUTURE DAILY ROADWAY OPERATION**

Roadway Segment	Existing Condition				Future Condition			
	Max Cap	Vol	V/C	LOS	Max Cap	Vol	V/C	LOS
Katella Avenue*:								
➤ Walker/Bloomfield	54,000	42,900	0.79	C	60,000	47,300	0.79	C
➤ Bloomfield/Los Alamitos	54,000	50,100	0.93	E	60,000	53,300	0.89	D
➤ Los Alamitos/I-605	63,000	57,900	0.92	E	72,000	63,200	0.88	D
Los Alamitos Blvd:								
➤ Orangewood/Katella	54,000	37,300	0.69	B	54,000	43,800	0.81	D
➤ Katella/Cerritos	54,000	37,800	0.70	B	54,000	33,500	0.62	B
➤ Cerritos/Ball	36,000	29,000	0.81	D	54,000	25,300	0.47	A
Cerritos Avenue:								
➤ Walker/Bloomfield	36,000	N/A	N/A	N/A	36,000	28,400	0.79	C
➤ Bloomfield/Los Alamitos	36,000	23,900	0.66	B	36,000	29,000	0.81	D
➤ Los Alamitos/I-605	36,000	25,100	0.70	B	36,000	27,000	0.75	C
Bloomfield Ave:								
➤ Katella/Cerritos	24,000	16,300	0.68	B	24,000	17,700	0.74	C
➤ Cerritos/Ball	24,000	13,700	0.57	A	24,000	15,000	0.63	B
Ball Road:								
➤ Bloomfield/Los Alamitos	36,000	17,500	0.49	A	36,000	21,400	0.59	A
➤ Bloomfield/Lexington	36,000	15,900	0.44	A	36,000	18,800	0.52	A

* = Smart Street

Max Cap = Maximum Capacity

Vol = Daily traffic volume

V/C = Volume to Capacity ratio

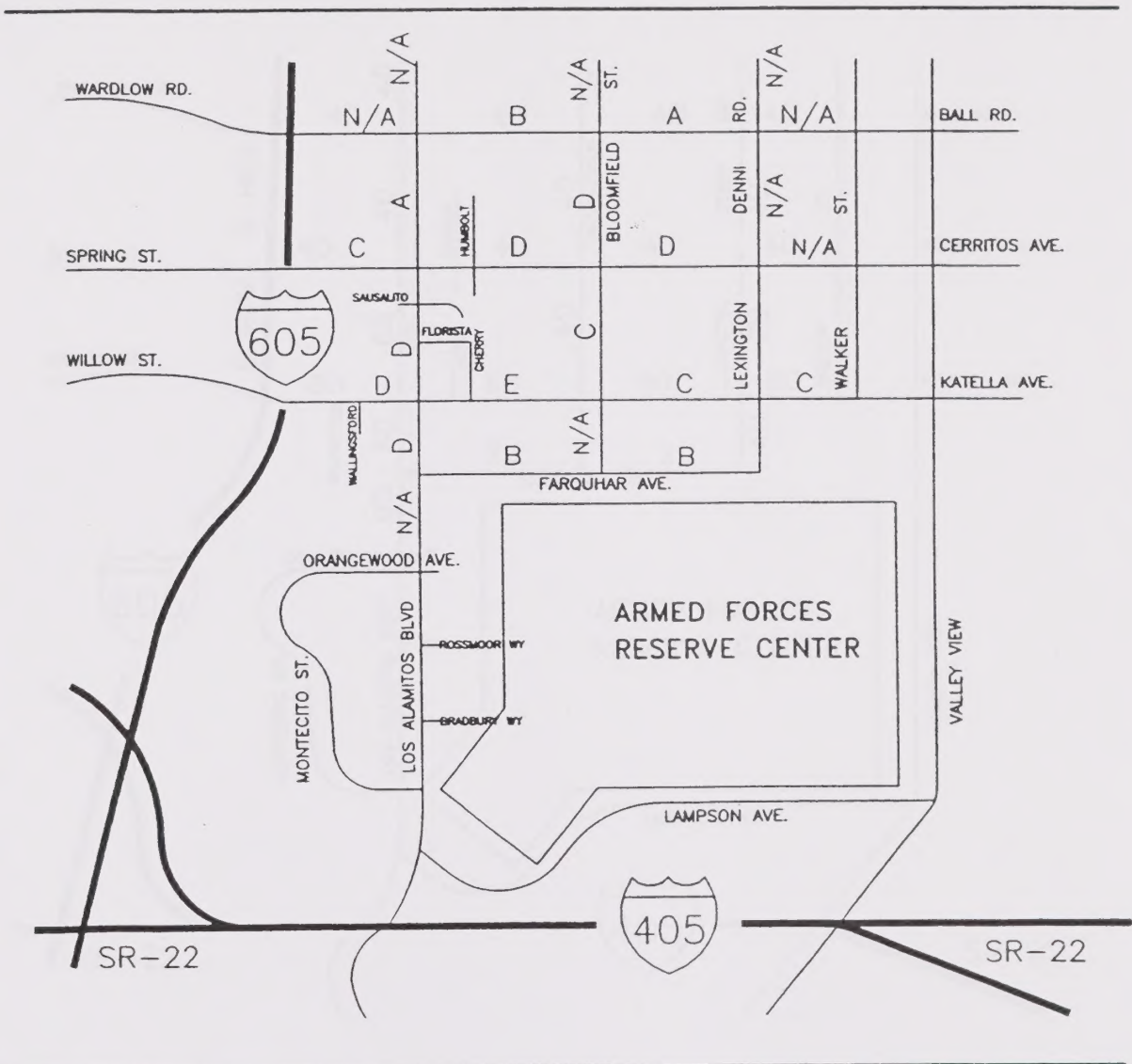
LOS = Level of Service

N/A = No data available

EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound

The City of Los Alamitos General Plan

GENERAL PLAN



LEGEND:

X : LEVEL OF SERVICE (LOS)
N/A : NOT APPLICABLE

CITY OF LOS ALAMITOS

FUTURE ARTERIAL HIGHWAY LINK LEVEL OF SERVICE

FIGURE 5-10

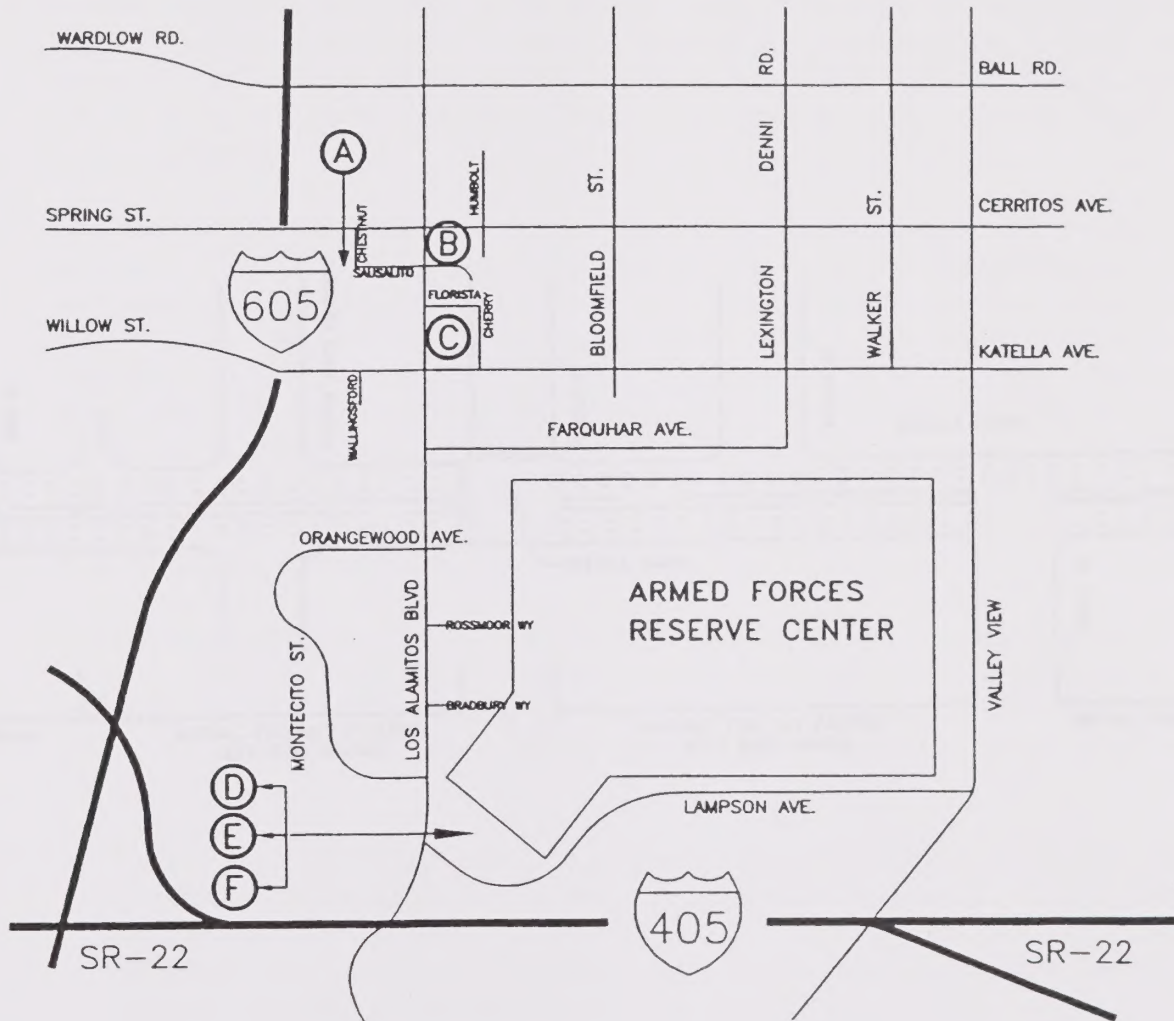
GENERAL PLAN



FIGURE 5-11

The City of Los Alamitos General Plan

GENERAL PLAN



LEGEND:

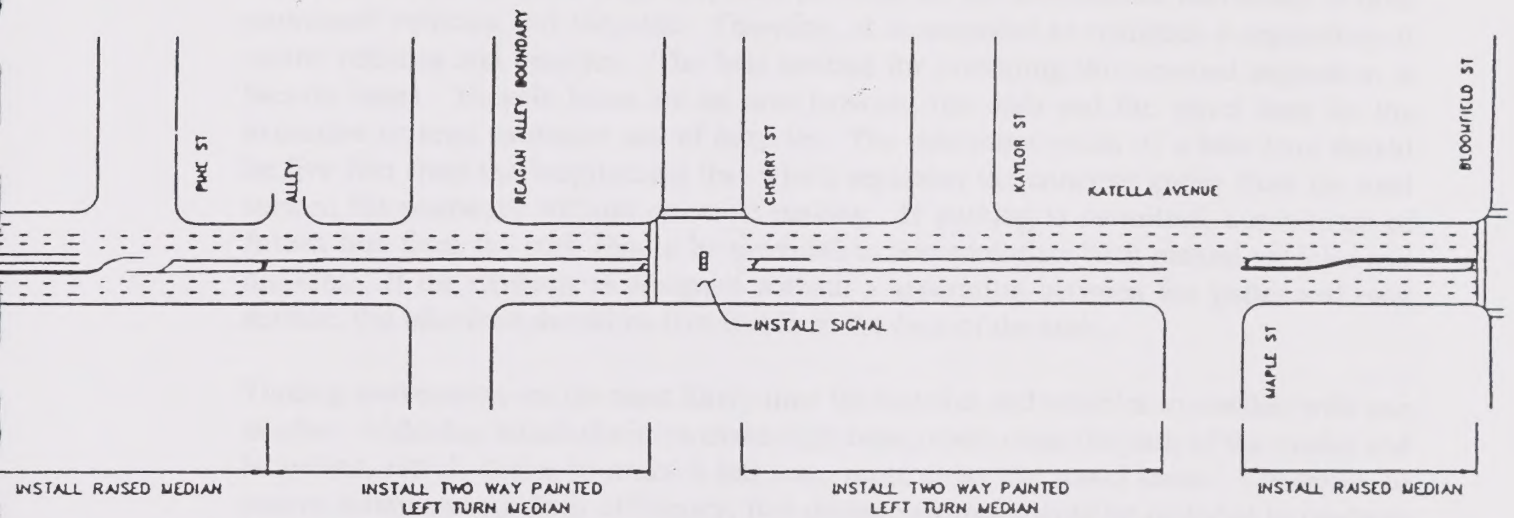
- (A) : 4-AC INDUSTRIAL
 - (B) : 11-AC SPECIALTY RETAIL
 - (C) : REDEVELOPING TO SPECIALTY RETAIL
 - (D) : 15-AC CHURCH
 - (E) : 25-AC RETAIL
 - (F) : 5-AC PARK
- CITY OF LOS ALAMITOS
- CITY OF SEAL BEACH

CITY OF LOS ALAMITOS

LOS ALAMITOS RECONSTRUCTION AREA PROJECTS

FIGURE 5-12

The City of Los Alamitos General Plan
GENERAL PLAN



CITY OF LOS ALAMITOS

RECOMMENDED KATELLA AVENUE IMPROVEMENTS
LOS ALAMITOS BOULEVARD TO BLOOMFIELD STREET

FIGURE 5-13

5.1 Bikeway Design Criteria

In order to promote bicycle travel in Los Alamitos, adequately designed facilities which promote safe and efficient bicycle travel are essential. There are two basic hazards when riding bicycles on the street: motorized vehicles and road hazards. Appropriately designed roadways and good roadway maintenance can help minimize these hazards. The following are four types of facilities and programs which will help reduce the hazards of cycling.

An effective and efficient bicycle system provides for the unrestricted movement of both motorized vehicles and bicycles. Therefore, it is essential to maintain a separation of motor vehicles and bicycles. The best method for providing this on-road separation is bicycle lanes. Bicycle lanes are an area between the curb and the travel lane for the exclusive or semi-exclusive use of bicycles. The minimum width of a bike lane should be five feet from the longitudinal line which separates the concrete gutter from the road surface for roadways without on-street parking. If parking is permitted, a minimum of fifteen feet from the curb should be provided to accommodate both parked vehicles and bicycles. If the roadway is designed without a separation between the gutter and road surface, the bike lane should be five feet from the face of the curb.

Turning movements are the most likely time for bicycles and vehicles to conflict with one another. Vehicles, which desire to make right turns, must cross the path of the cyclist and bicyclists, which desire to make a left turn, must cross the travel lanes. Therefore, to ensure safety and roadway efficiency, two design features should be included in roadway design, when feasible:

1. When there is a free right turn lane or a right turn only lane, the bicycle lane should be moved from being next to the curb to being located between the designated right turn lane and the first through lane, well before the intersection begins. Additionally, sufficient width, minimum of 14 feet, should be maintained for the right turn lane to accommodate those bicycles making a right turn.
2. When there is either one or multiple designated left turn lanes, an area to accommodate bicycle travel, with a minimum of four feet, should be provided between the last through travel lane and the first designated left turn lane.

5.2 Minimum Curb Lane Width

In areas where bicycle lanes are not feasible, it is essential to maintain a curb lane width wide enough to accommodate bicycles. If the curb width is too narrow, it creates a situation where bicycle travel becomes dangerous and motor vehicle travel is impeded by the presence of bicycles. Therefore, it is essential to maintain a minimum curb width of 17 feet in areas where Class II bike lanes are not feasible.

5.3 Road Hazards

One reason bicyclists tend to ride in the outside (closest to the travel lane) portion of the bike lane is to avoid road hazards. There are many road hazards, which occur near the curb. One of the major hazards is the longitudinal separation line which occurs between the concrete gutter and the road surface. Because this change in road surface elevation is dangerous for cyclists, the preferred area for travel is closest to the motor-vehicle travel lane. Drainage grates are also a hazard to bicyclists. The longitudinal bar type grate is the most dangerous. The parallel-bar grates can trap a bicyclist's wheel, causing a serious crash to occur. The best design for drainage facilities is the curb-face inlet. If this design is not feasible, then the next best approach is a bicycle safe grate, such as a honeycomb or short angled slot design. Another road hazard occurring near the curb is road debris. Vehicle travel tends to push debris toward the curbs. Regular street sweeping can solve the problem.

5.4 Bicycle Sensitive Traffic Signals

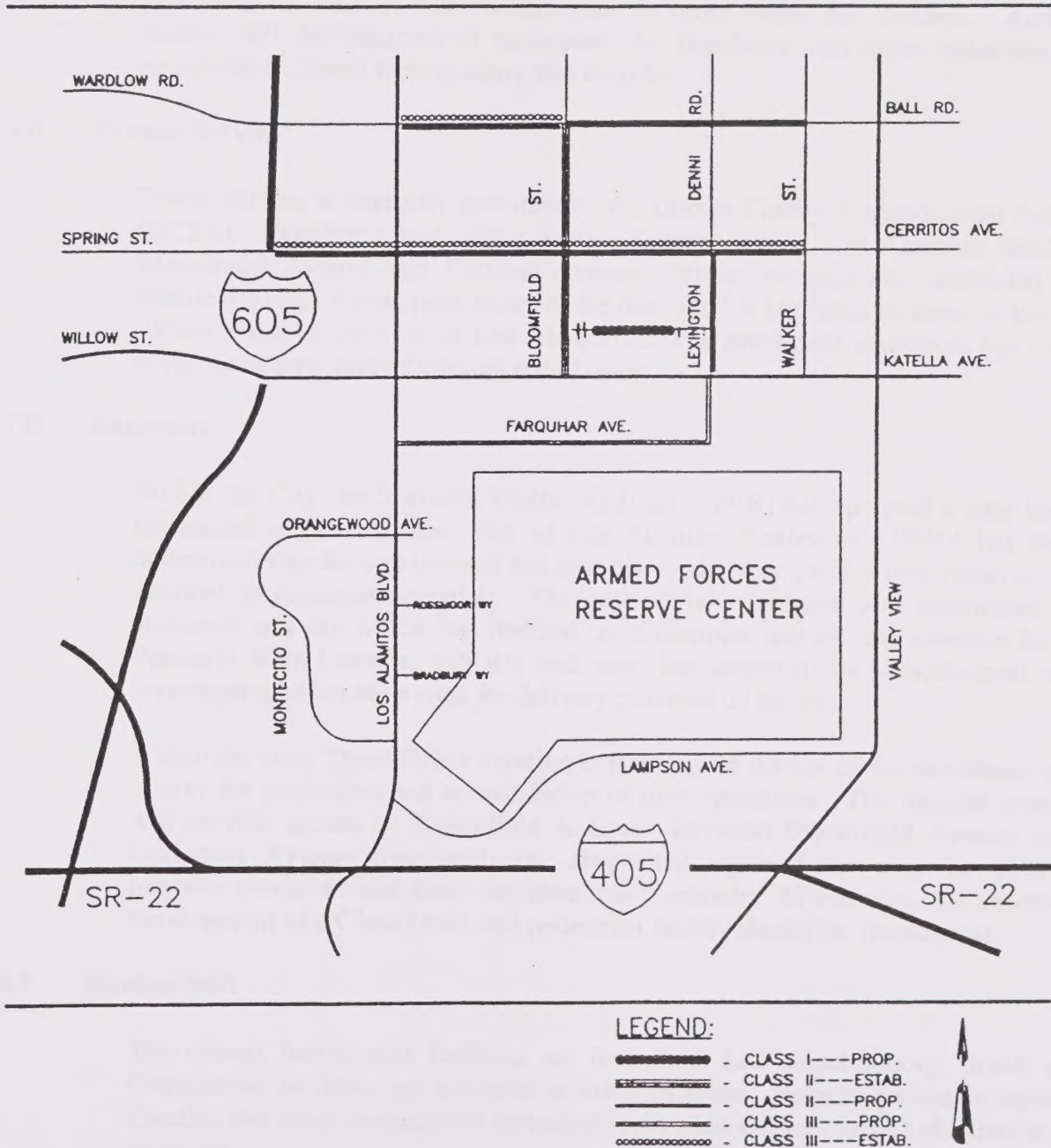
Demand activated signals are known for being unresponsive to bicycles. Bicycles generally do not have enough metal to activate detectors. However, modern detection systems have been developed which do detect bicycles. One design available is a modified quadruple loop (Caltrans Type D). In addition to the bicycle loop detection, traffic signals could be modified or constructed to include push buttons for use by bicyclists.

An investigation into alternative bicycle routes is recommended as depicted in Figure 5-14. Converting the remaining segment on Ball Road from Class III to Class II will provide safe consistency along this corridor. There also appears to be the capability of converting the Cerritos Avenue corridor to a Class II facility.

Future Class II facilities are recommended along the Farquhar Street corridor to provide an east/west alternate route for Katella Avenue. The circulation for this Class III facility can be improved by providing connection to the future construction of Lexington Avenue.

The City of Los Alamitos General Plan

GENERAL PLAN



CITY OF LOS ALAMITOS

BICYCLE FACILITIES

FIGURE 5-14

An investigation into providing a Class I facility along the abandoned railroad spur east of Bloomfield Avenue is recommended. With the existing elementary and Junior High schools, this corridor would provide more safety for children. Additional studies will be required to determine the feasibility and costs associated with preserving a Class I facility along this corridor.

6.0 Transit Service

Transit service is currently provided by the Orange County Transportation Authority (OCTA). Existing transit routes include Katella Avenue, Los Alamitos Boulevard, Bloomfield Avenue and Cerritos Avenue. Buses are generally scheduled in 20 minute intervals during peak hours of the day. OCTA has funds to improve bus stops. Where feasible, the City of Los Alamitos should investigate additional bus turnouts to reduce obstruction of through travel lanes.

7.0 Railroads

Within the City the Southern Pacific Railroad (SPRR) has operated a spur line that terminated at Barr Lumber east of Los Alamitos Boulevard. SPRR has recently determined that the condition of the spur line is such that a major renovation would be required to continue operation. The cost of the renovation was determined to be excessive and the SPRR has decided to discontinue service and abandon its use. Similarly Barr Lumber, SPRR's end user, has accepted the abandonment and is investigating alternative sites for delivery provided by the rail.

Within the area, Trend Offset Printing is planning on the use of the abandoned rights-of-way for expansion and consolidation of their operations. The planned expansion will provide access to Bloomfield Avenue. Between Bloomfield Avenue and the Lexington Avenue (proposed) the abandoned rights-of-way may be useable to improve access to and from the elementary schools. In addition, the potential of development of a Class I bike and pedestrian facility should be investigated.

8.0 Harbor-Port

The nearest harbor-port facilities are located in Los Angeles-Long Beach area. Commercial facilities are available at these locations. Regular passenger service to Catalina and other destinations including cruise ship services can be obtained at these locations.

9.0 Truck Circulation

Arterial roadway structural sections are generally built to handle truck traffic. However, there are exceptions as well as noise and vibration impacts to nearby residential areas. Designated truck routes of adjacent cities and structural sections of Los Alamitos roadways were investigated to develop a truck route system.

The truck route system is recommended to be established by adoption of a truck route ordinance. Such an ordinance should also provide for the adoption of weight limitations as may be required for special roadways. The recommended truck route system is presented in Figure 5-15.

10. Airports

Air travel is available from the Long Beach Airport located approximately six miles to the west. Other airports include John Wayne Airport (Orange County) 15 miles to the southeast, Los Angeles International Airport (LAX) 22 miles to the northwest, and Ontario Airport, 45 miles to the north.

The Armed Forces Reserve Center (AFRC), located within the City of Los Alamitos, includes runways for use by the Department of Defense and California National Guard aircraft.

11. Development Monitoring

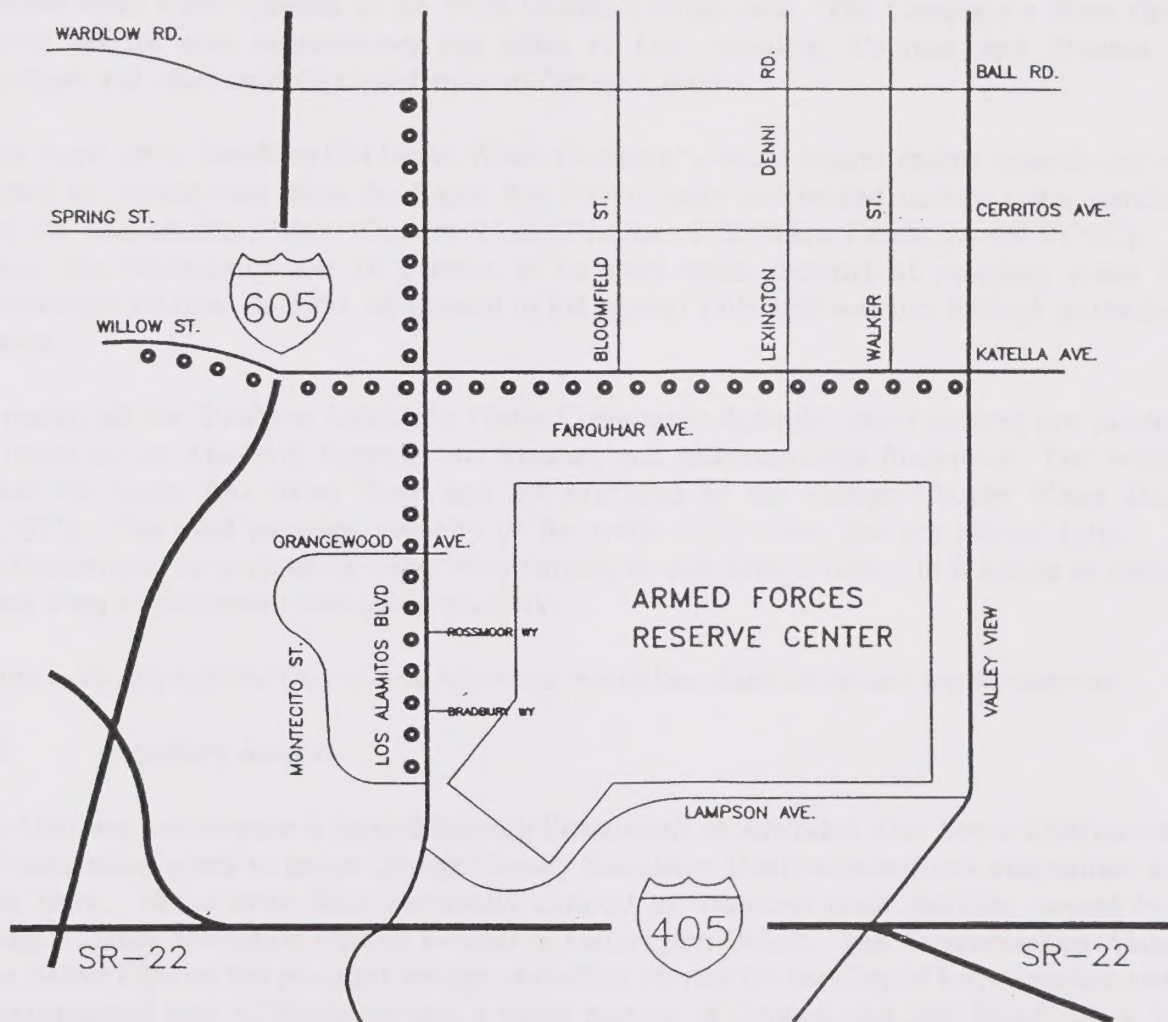
The City of Los Alamitos will remain cognizant of future development occurring in neighboring communities to preserve future access and circulation (Exhibit A). Should the Armed Forces Reserve Center close their facility, preservation of access points to external streets is important to control congestion by providing alternative routes of travel.

Large development projects within the Cities of Seal Beach and Cypress should be monitored for investigation of traffic along City of Los Alamitos arterials.

The Orange County Congestion Management Program (CMP) and the City's adopted Transportation Demand Management (TDM) Ordinance are tools for controlling and enforcing development criteria, providing mitigation measures required by new development, and reducing overall congestion.

The City of Los Alamitos General Plan

GENERAL PLAN



CITY OF LOS ALAMITOS

TRUCK ROUTES
FIGURE 5-15

12.0 Water Service

Southern California Water Company owns and operates the extensive network of water lines which serve Los Alamitos. Since the early 1960's, the Southern California Water Company has operated three water systems in the West Orange County area. The Company's West Orange County service area encompasses the cities of Los Alamitos, Cypress, and Stanton, and Rossmoor and other unincorporated areas of Orange County.

As of April 1995, Southern California Water Company's water system supply sources include a mixture of groundwater from the Santa Ana River Basin and treated surface water purchased from the Metropolitan Water District of Southern California (MWDSC). The system has historically met 80 percent of its total water demand of pumping water from groundwater sources. In 1995, 86 percent of the system's demand was met through groundwater sources.

Currently, all the Southern California Water Company's domestic water sources are located in the cities of Los Alamitos, Cypress, and Stanton, and unincorporated Rossmoor. The wells are within the Santa Ana River Basin and are managed by the Orange County Water District (OCWD). The total pumping capacity of the wells is 20 cubic feet per second (cfs). The distribution system consists of water lines ranging in size from 2 inches to 6 inches in diameter which form a grid pattern throughout the City.

Figure 5-16 displays the City of Los Alamitos' water line distribution and supply network.

13.0 Sanitary Sewers

Los Alamitos' wastewater is carried through Rossmoor/Los Alamitos Area Sewer District-owned and maintained pipes to larger Orange County Sanitation District-owned and maintained sewer trunk lines. These trunk lines eventually connect to treatment plant facilities owned by the Orange County Sanitation District located in Huntington Beach. The Rossmoor/Los Alamitos Area Sewer District has provided sewage collection service for the City of Los Alamitos and the unincorporated area of Rossmoor and a small portion of Cypress and Seal Beach since 1952. Prior to this time, Orange County had no means of sewage collection or disposal in West Orange County.

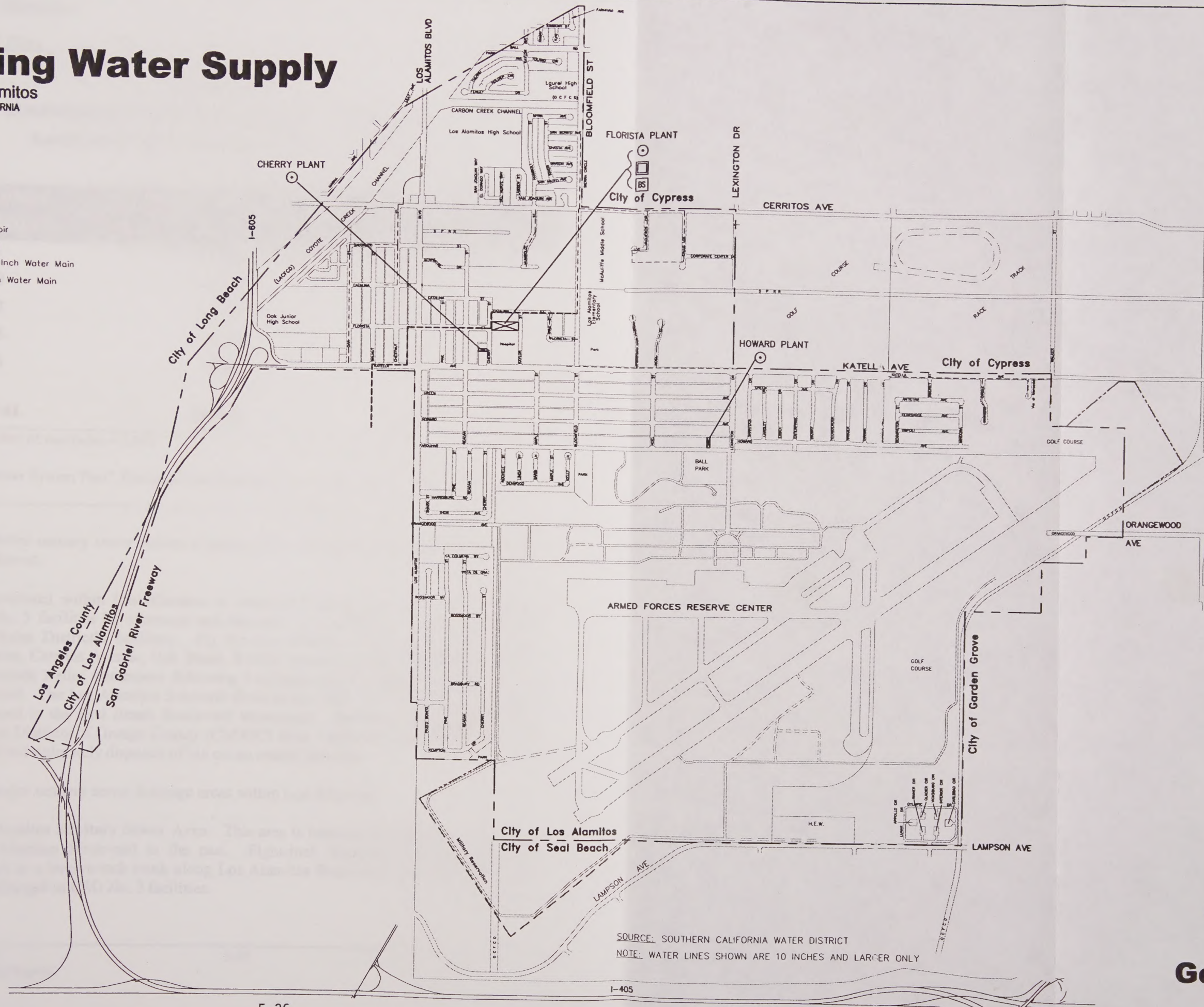
The majority of the sewer lines located within Rossmoor/Los Alamitos Area Sewer District's boundaries are 8 inches in diameter. In general, these sewer lines are located in the public right-of-way. Larger trunk lines are located along Foster Road in the Rossmoor development, along Los Alamitos Boulevard north of Katella Avenue, and along Katella Avenue. Table 5-1 lists the approximate line lengths relative to pipe diameters.

Existing Water Supply

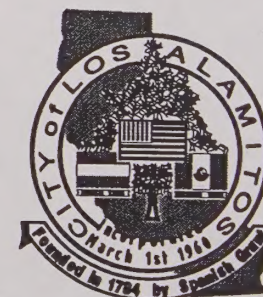
City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

- City Boundary
- Existing Well
- Existing Reservoir
- BS Booster Station
- - - Existing 10-12 Inch Water Main
- - - Existing 14 Inch Water Main



NOT TO SCALE



General Plan

FIGURE 5-16

SOURCE: SOUTHERN CALIFORNIA WATER DISTRICT
NOTE: WATER LINES SHOWN ARE 10 INCHES AND LARGER ONLY

TABLE 5-5
ROSSMOOR/LOS ALAMITOS AREA SEWER DISTRICT
SANITATION SEWER FACILITIES INVENTORY

Pipe Diameter (inches)	Approximate Length (lineal feet)	Approximate Length (miles)
8	257,600	48.8
10	9,300	1.8
12	13,000	2.5
15	1,700	0.3
18	3,300	0.6
TOTAL	284,900	54.0

Approximate number of manholes = 1,000

Source: "1985 Sewer System Plan", Rossmoor/Los Alamitos Area Sewer District, August 1985.

Los Alamitos' entire sanitary sewer system is gravity fed. The general drainage pattern is from northeast to southwest.

Sewage flow generated within Los Alamitos is ultimately transported to County Sanitation District (CSD) No. 3 facilities for treatment and disposal. Two CSD No. 3 trunk sewers serve Los Alamitos Water District's facilities: (1) the Los Alamitos Subtrunk sewer following Bloomfield Avenue, Cerritos Avenue, Oak Street, Katella Avenue, and Los Alamitos Boulevard and, (2) the Westside Relief Interceptor following Lexington Drive, Katella Avenue, and Los Alamitos Boulevard. The Los Alamitos Subtrunk flows to the CSD No. 3 Westside Lift Station where it is pumped to the Seal Beach Boulevard Interceptor. The flow is transported to the County Sanitation Districts of Orange County (CSDOC) Joint Treatment Works facilities where sewage is treated and ultimately disposed of via ocean outfall facilities.

There are three major sanitary sewer drainage areas within Los Alamitos.

1. North Los Alamitos Sanitary Sewer Area: This area is bounded by Katella Avenue to the south and Los Alamitos Boulevard to the east. Eight-inch diameter collectors drain in a southerly direction to a twelve-inch trunk along Los Alamitos Boulevard. Flow in this trunk is subsequently discharged to CSD No. 3 facilities.

2. **Katella Avenue Drainage Area:** This area follows Katella Avenue from Los Alamitos Boulevard east. Sewage flows in a westerly direction as 8-inch diameter collector discharge into an existing 12-inch trunk line in Katella Avenue. Flow in this trunk line is diverted at several locations into the CSD No. 3 Westside Relief Interceptor.

3. **Armed Forces Reserve Center, Los Alamitos:** This area includes the entire Armed Forces Reserve Center plus residential development east of Los Alamitos Boulevard. Sewage flow is in a westerly direction. Eight-inch and ten-inch collectors discharge into the CSD No. 3 Westside Relief Interceptor in Los Alamitos Boulevard.

Agreements With Adjacent Sewering Agencies

There are three areas within the City of Los Alamitos that are served by neighboring local sewerage agencies:

1. The Los Alamitos sewer in Los Vaqueros discharges to the city of Cypress sewer located in Cerritos Avenue. The agreement between the city of Cypress and Los Alamitos Water District dated December 8, 1977, stipulates that the 12-acre parcel at the southeast corner of Cerritos Avenue and Bloomfield Street will be served by Cypress until Los Alamitos Water District constructs collection facilities in Cerritos Avenue. It provides for an average daily flow contribution of 0.06 cubic feet per second (cfs) from this area.

2. The northerly triangular tip of the Rossmoor/Los Alamitos Area Sewer District between Bloomfield Street and Ball Road (Tract 4642) discharges northerly to the neighboring local collection system.

3. The northerly triangular tip of the district, Tract 5868 discharges southerly to the city of Seal Beach system in Tulip Street.

Figure 5-17 displays the City of Los Alamitos' sanitary sewer distribution network.

14.0 Flood Control - Storm Drains

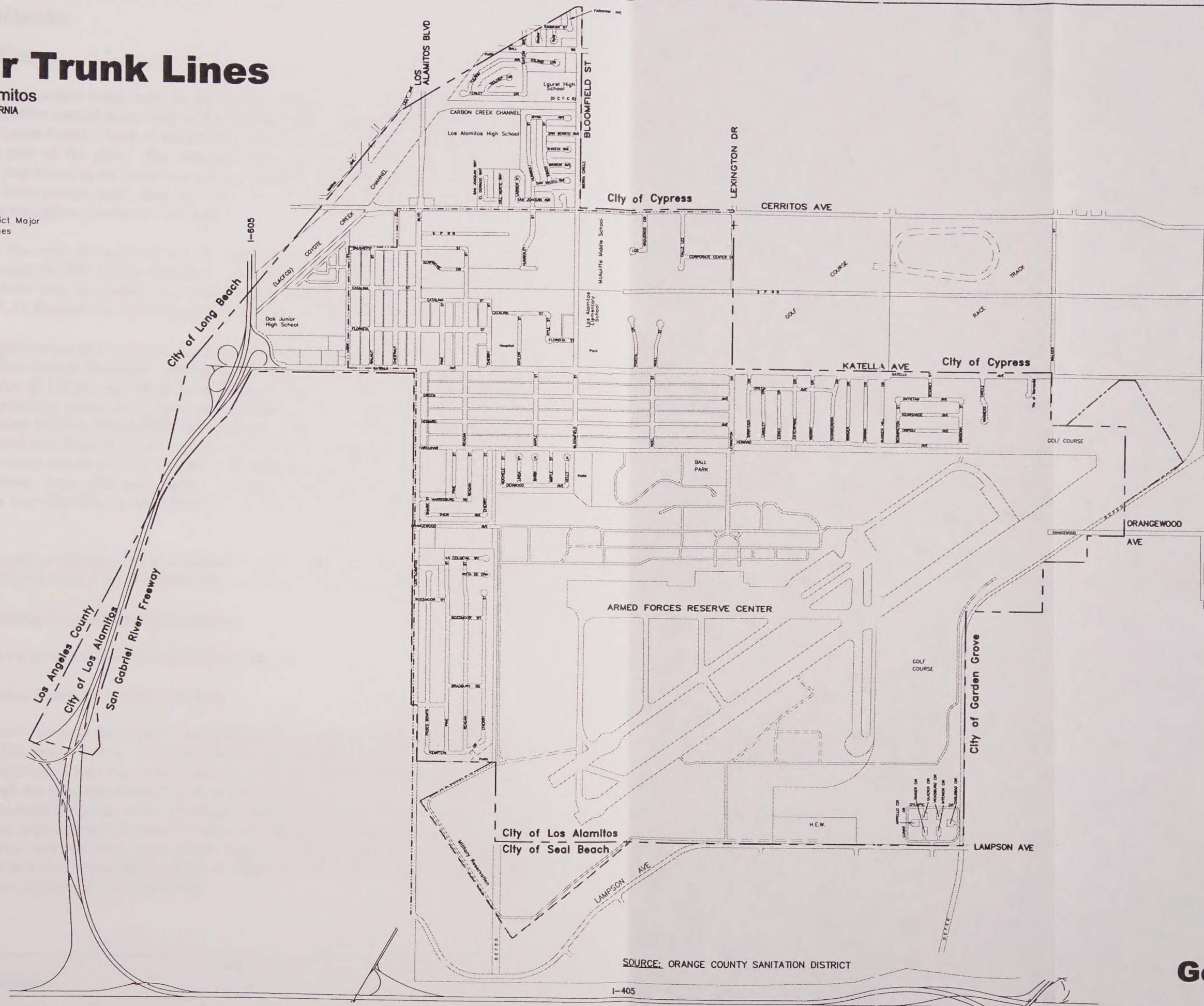
Storm drainage and flood control facilities in the City of Los Alamitos are maintained by the City, the Los Angeles Public Works Department and the Orange County Flood Control District. The Orange County Flood Control District (OCFCD) is empowered to construct and maintain flood control works to prevent or minimize loss of life and property caused by flooding and to conserve water. The Orange County Public Works Department implements the Flood Control District's funded activities program which includes the design, construction, operation, and maintenance of regional flood control facilities. The flood control system in the City is part of the multi-jurisdictional regional flood control network which discharges storm water runoff into the San Gabriel River and Bolsa Chica Creek channels.

Sewer Trunk Lines

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

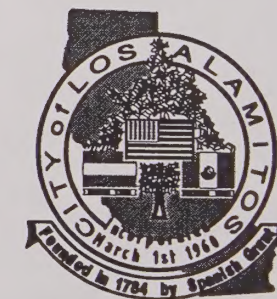
- City Boundary
- Sanitation District Major Sewer Trunk Lines



SOURCE: ORANGE COUNTY SANITATION DISTRICT



NOT TO SCALE



General Plan

FIGURE 5-17

A prominent natural surface water body located in Los Alamitos is the southwesterly flowing Coyote Creek. Another natural water body is the Carbon Creek; a westerly flowing creek which converges with Coyote Creek. Each of these two concrete-lined creeks are intermittent and can be dry for some part of the year. The concrete-lined, southerly flowing San Gabriel River remains flowing year round in the lower end and is located to the west of the City. These flood control facilities drain surface water from the cities of Los Alamitos, Cypress, Stanton, Garden Grove, and others throughout Southern California.

Alamitos Bay is the only downstream surface water body receptor in the regional drainage pattern encompassing the City of Los Alamitos. Alamitos Bay is classified as a coastal surface water; coastal waters may be defined as waters subject to tidal action and waters in coastal sloughs. Figure 5-18 displays the local and regional drainage patterns for Los Alamitos.

Floodplain management is a key component to effective flood control within Orange County and Los Alamitos. The Federal Insurance Administration delineates through official maps, Flood Insurance Rate Map (F.I.R.M.) and Flood Boundary and Floodway Map, areas of special flood hazard, the risk premium zones, and floodways applicable to Los Alamitos. According to the FIRM Map (Number 060226, Panel 0018, Map 06049c0018E, X, 1992) for Los Alamitos, the entire City is located in a Zone X. Zone Z is defined as "areas of 500-year flood; areas of 100-year flood with average depths of 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood." Figure 5-19 displays the 100-year flood characteristics for Los Alamitos as determined by the Federal emergency Management Agency (FEMA).

In a specific watershed, a 500-year flood is a flood which has a one in 500 chance of occurring in any year and a 100-year flood is a flood which has a one in 100 chance of occurring in any year.

Description of Potential Los Alamitos Flood Threats

The following are the potential flood threats for Los Alamitos.

1) Regional Flooding Problems -- Santa Ana River

The Santa Ana River basin is the largest watershed area in Southern California encompassing approximately 3,200 square miles. The watershed area is separated into an upper and lower basin roughly divided by Prado Dam and Reservoir near the City of Corona. The Santa Ana River flows through the principal urban centers of San Bernardino and Riverside counties in the upper basin and most of the major cities of Orange County in the lower basin. The Santa Ana Mainstream Project improvements began five years ago and approximately 50% complete today. These improvements will eliminate many of the regional flooding hazards in Orange County. These improvements include construction of Seven Oaks Dam, raising the Prado Dam and lining the Santa Ana River downstream of Prado Dam.

Within Orange County, the overflow area for a standard project flood (a 500 year storm event) includes the City of Los Alamitos. According to a 1975 U.S. Corps of Engineers' report on the Santa Ana River Main Stream and Santiago Creek, under the most severe conditions likely, floodwaters would cover over 100,000 acres to an average depth of three feet. Some areas in Orange County would be much deeper (for example, Huntington Beach's low area would be under six feet of water).

2) Localized Flooding Problems

Local drainage patterns and facilities primarily consist of surface runoff intercepted by a limited amount of open channels and underground pipe systems. The facilities have the following features:

- Surface Runoff: The streets within the City serve as the primary facility for conveying runoff within City owned right-of-way. Due to development standards employed in the 1950's and 1960's most of the streets are inadequately sloped to convey runoff in an efficient manner to comply with current drainage standards. Many of the streets are sloped from 0.15% to 0.25% where current County standards would require minimum slopes of 0.50%. City streets serve in routing runoff to a limited number of catch basins for storm drain or open channel conveyance. The number of catch basins is inadequate based on current standards, which require storm drain interception for every 1,000 feet of cumulative roadway length.
- City Storm Drain/Open Channel Facilities: There are approximately 80 catch basins throughout the City's two square mile watershed, which intercept most of the local runoff for storm drain and open channel facilities. Since most of the catch basins and storm drain systems were constructed in the 1950's and 1960's, they do not meet current design standards for conveyance of the 10, 25, and 100 year event storms.

The County of Orange updated standards for storm water conveyance in 1986. Recent extensions to the City storm drain system include:

1. Inlet and 18" lateral pipe connection at Katella Avenue and Siboney Street to the Katella Avenue drain system.
 2. Inlets and 30" storm drain pipe on Reagan Street (south of Katella Avenue) and Farquhar Avenue to the Farquhar Channel.
 3. Inlets and storm drain pipe on Cherry and Reagan Streets (north of Katella Avenue) to the Katella Drain.
- Pump Station: The City owns and maintains a pump station at the cul-de-sac of Fenley Drive in the College Park North area.

The facilities are for the purpose of pumping local storm water in areas that are geographically depressed to gravity flow designed systems.

The inventory of major storm drain facilities include:

- ◆ Rossmoor Highlands open channel, south of the Rossmoor Highlands tract, draining from east to west, owned and maintained by the City.
- ◆ Farquhar/Rossmoor Channel, primarily on the south side of Farquhar Avenue, draining east to west, owned and maintained by the County of Orange.
- ◆ Katella Avenue drain (a regional drain), located in Katella Avenue, draining east to west, owned and maintained by the City.
- ◆ Cerritos Avenue drain, located in Cerritos Avenue, draining east to west, owned and maintained by the City.
- ◆ Carbon Creek Channel located between Ball Road and Cerritos Avenue, draining east to west, owned and maintained by the County of Orange.

As previously discussed, a significant portion of the storm drain system does not comply with current design standards. On the other hand, the City has experienced significant storms during the 1990's which were estimated to exceed the 25 year and 100 year storm events. During these storms, there was not a loss of life and the City experienced minimal damage to property. The system's design inadequacy appears to have a reduced level of service and factor of safety, although this is not quantifiable at this time. This has been determined acceptable, since the level of protection is reasonable and adequate to provide ultimate protection of building structures from the 100 year storm event, compliant to federal standards. The costs to meet the specifics of every current design standard would be prohibitive. Standards and policies for existing features are as follows:

1. Building pads above the designated 100 year flood plain water surface, in compliance with the National Flood Insurance Program.

Standards and policies for future facility features are as follows:

1. Building pads constructed one foot or more above the designated 100 year flood plain water surface, in compliance with County of Orange standards.
2. Roadways and drainage facilities designated for the 10 and 25 year storm event as described in the County of Orange design standards.

Design standards for determining local runoff include the following manuals:

1. Orange County Hydrology Manual, October 1986
2. Orange County Local Drainage Manual, January 1996

15.0 Electric Service

The City of Los Alamitos receives electrical service from the Southern California Edison Company. Electrical infrastructure is located both above and below ground level within the City limits. In an effort to provide reliable service, Edison continuously upgrades and maintains its electrical system. Edison does not anticipate any significant electrical service problems within the City.

Currently, Edison serves the City of Los Alamitos by a network of substations. These substations also serve the needs of neighboring communities as an integral part of Edison's electric grid system.

Electrical current flows from Southern California Edison generating facilities to the City of Los Alamitos for delivery to receiving stations or substations at 4,000 and 12,000 volts electrical potential. It is then transformed in substations located in or close to the City, to the type of power required by the user, ranging from normal house current to industrial requirements.

16.0 Natural Gas Service

The Gas Company provides natural gas service to the City. The gas mains and services within the City of Los Alamitos range in age from those installed in the 1940's to present day installations. Lines currently in service are bare and wrapped steel with installations since 1973 of polyethylene plastic. The distribution system in Los Alamitos primarily consists of high and medium pressure lines, ranging in size from 1/2 inch to 10 inches in diameter, which forms a grid pattern.

The Gas Company maintains one major trans-city, high pressure, 34-inch gas line running east and west along Lampson Avenue. This is part of a large transmission net work system that supplies the greater Los Angeles and Orange County area.

Figure 5-20 displays the natural gas distribution network serving Los Alamitos.

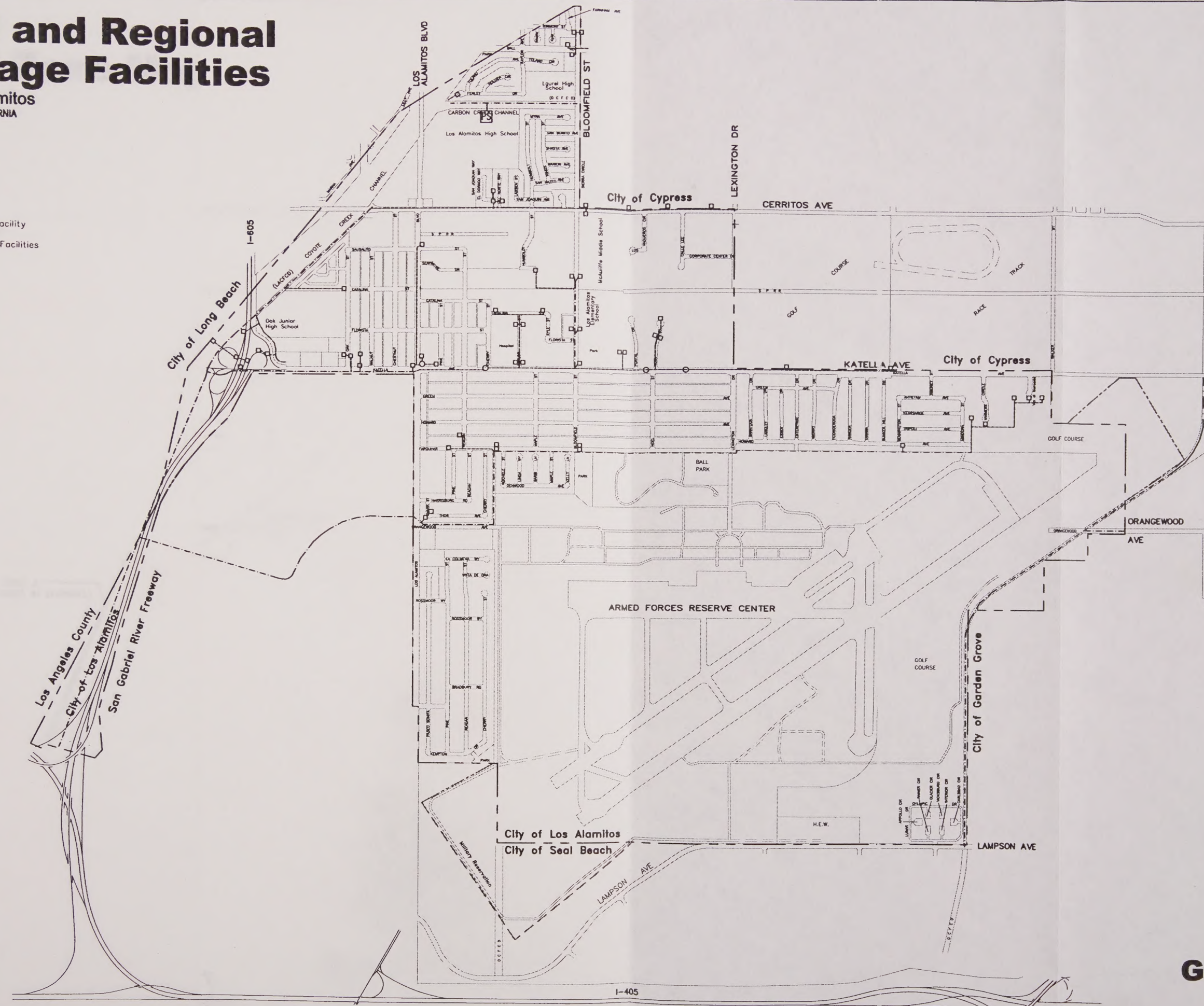
Coverage within the City is complete. The company has no plans for replacement or expansion of their facilities other than normal maintenance. Services and mains are replaced based upon an economic analysis which considers factors such as current value and the ratio of cost of replacement to repair. This process allows for a continuous evaluation of the gas piping system and replacement as required.

Local and Regional Drainage Facilities

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

- City Boundary
- Existing Local Facility
- Existing OCFCD Facilities
- Catch Basin
- Drop Inlet
- PS Pump Station



NOT TO SCALE



General Plan

FIGURE 5-18

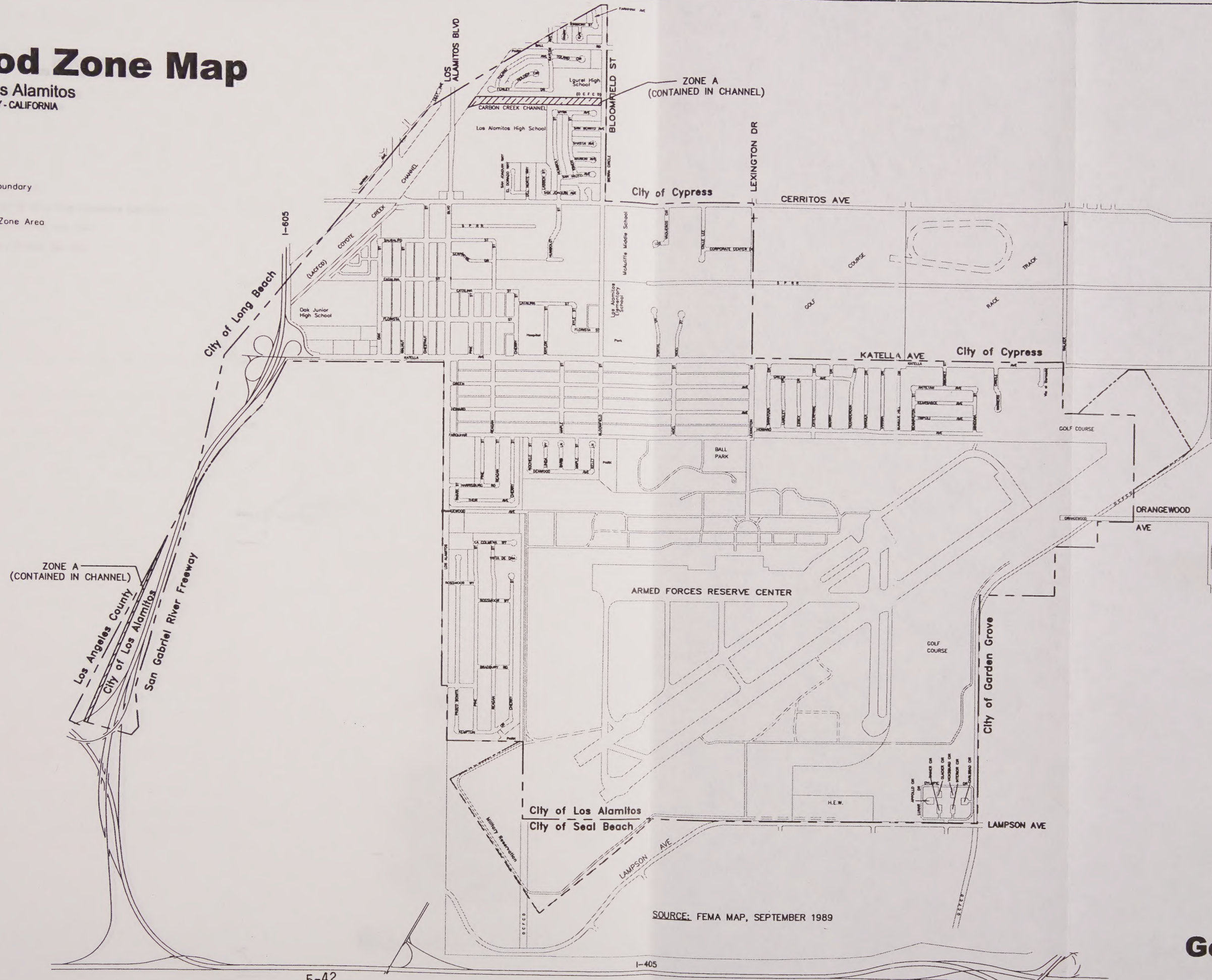
Flood Zone Map

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

--- City Boundary

 Flood Zone Area



NOT TO SCALE



General Plan

FIGURE 5-19

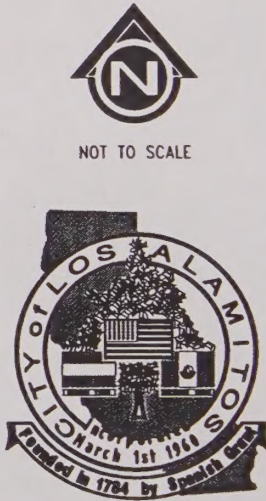
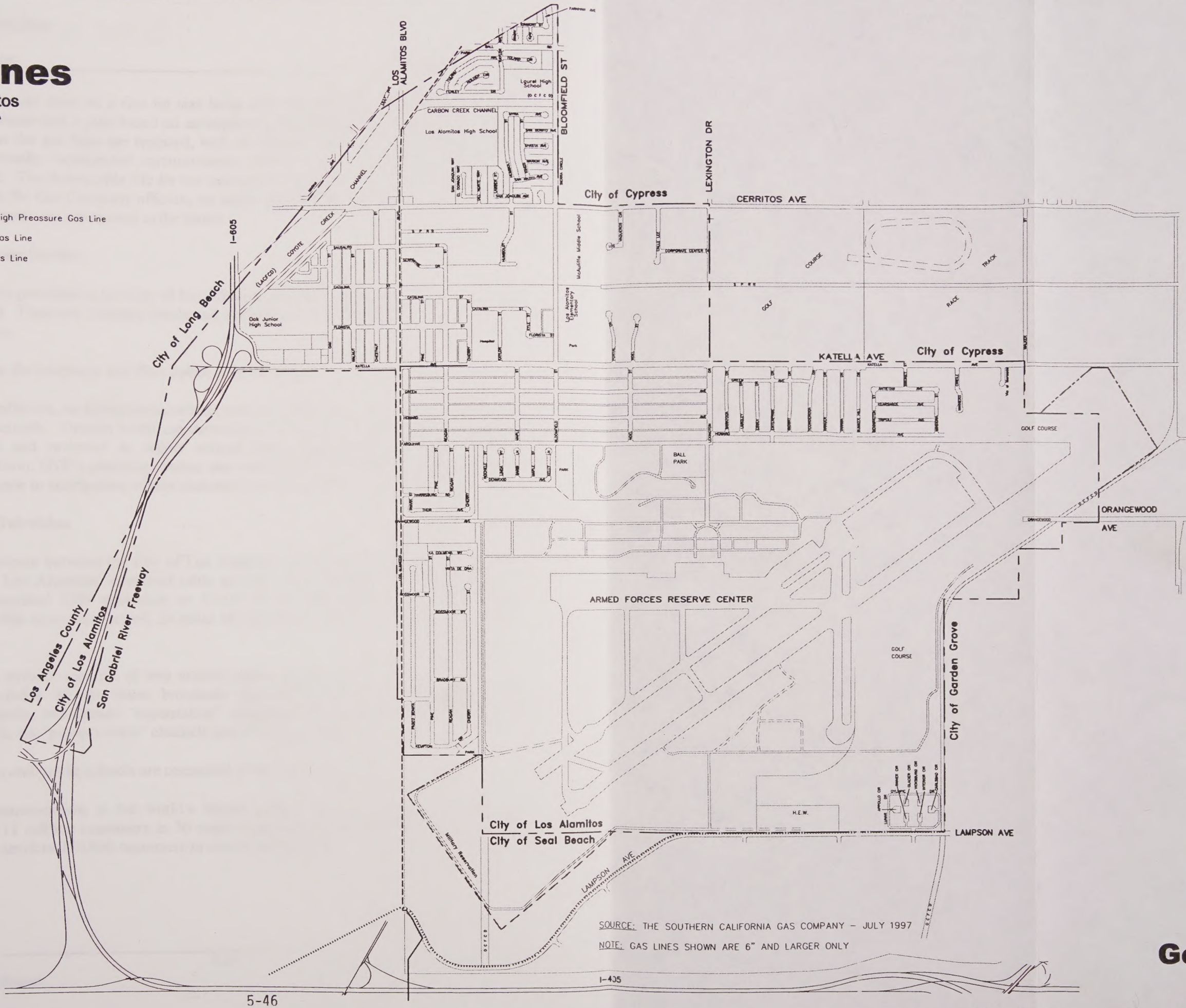
SOURCE: FEMA MAP, SEPTEMBER 1989

Gas Lines

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

- City Boundary
- Existing 34-Inch High Pressure Gas Line
- Existing 10-Inch Gas Line
- Existing 6-Inch Gas Line



General Plan

FIGURE 5-20

Replacement is normally done on a size for size basis with changes based on growth patterns. The Gas Company maintains a plan based on anticipated growth patterns. This allows changes of a minor nature as the gas lines are replaced, with the objective of not having to do a major upgrading unless totally unexpected circumstances should occur. All replacements are polyethylene plastic. The depreciable life for bas mains is 42 years, and for service lines it is 28 years. According to the Gas Company officials, no major maintenance or service problems exist within the City and none are anticipated in the future.

17.0 Telephone Service

Telephone Service is provided in the City of Los Alamitos by the General Telephone Company of California (GTE). There are currently residential and business GTE lines in service within the City of Los Alamitos.

Figure 5-21 displays the telephone and fiber optics network serving Los Alamitos.

According to GTE officials, its telecommunications network is adequate to meet both current and future customer demands. Growth needs are determined by an econometric forecast which is constantly updated and reviewed to reflect current and predicted economic and political conditions. In addition, GTE's planning process also ensures that modifications to the network infrastructure are made in anticipation of new customer services and changes in technology.

18.0 Cable Television

The franchise agreement between the City of Los Alamitos and Time Warner Communications paved the way for Los Alamitos' improved cable service. As of October 1996, Time Warner Communications serviced 2289 customers or 53.1% of the households in the City of Los Alamitos. During this same time period, 29 miles of cable were used to service 4,311 dwelling units.

The Los Alamitos system consists of two coaxial cables capable of carrying 111 channels. Current usage includes 19 air wave broadcast channels, four public, educational and governmental channels, two distant "superstation" channels, 47 satellite basic channels, nine "premium" channels, six "pay-per-view" channels and one music radio channel.

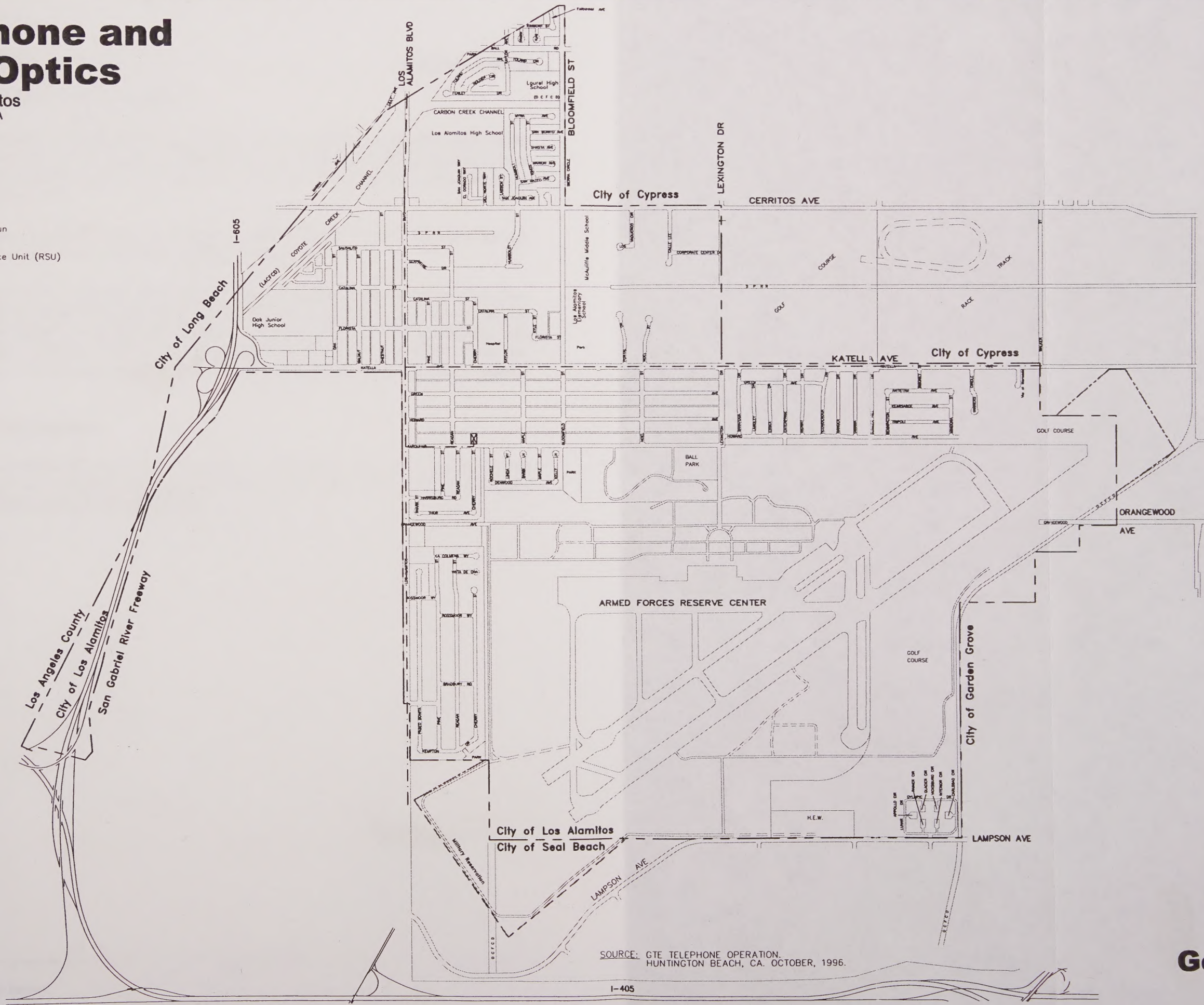
All public buildings and public schools are connected to the cable system.

Time Warner Communications is the world's largest information and entertainment system, serving more than 11 million customers in 30 major American metropolitan areas. In Orange County the system services 130,000 customers in eleven communities.

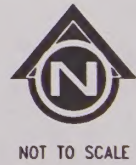
Telephone and Fiber Optics

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

- LEGEND**
- City Boundary
 - GTE Fiber Optic Run
 - GTE Remote Service Unit (RSU)



SOURCE: GTE TELEPHONE OPERATION.
HUNTINGTON BEACH, CA. OCTOBER, 1996.



General Plan

FIGURE 5-21

Channel 3 - Los Alamitos TV Corporation

Channel 3 is owned and operated by the Los Alamitos TV Corporation, a non-profit corporation. It provides the residents of Los Alamitos and the unincorporated area of Rossmoor with local municipal government and educational programming. Other activities include adult and youth instruction in video and film.

Examples of Channel 3's locally produced programs include coverage of City Council meetings; travel shows; local athletic events; election coverage; and much more.

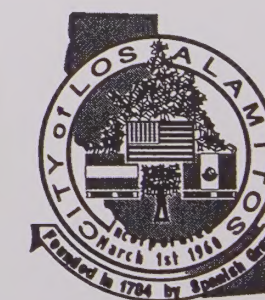
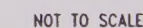
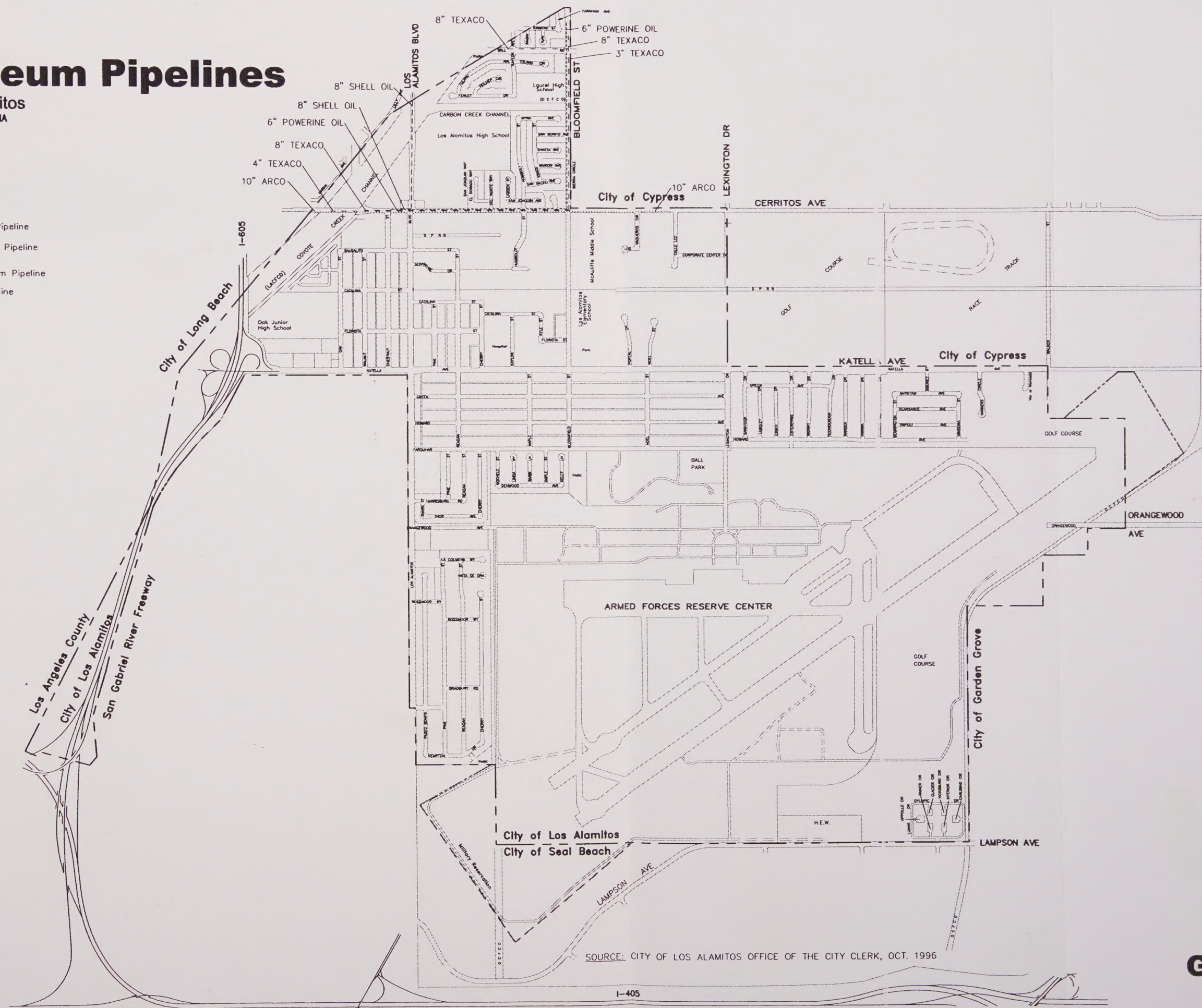
Channel 3 is funded by a 7 percent franchise fee from cable subscribers and from local grant sources. Currently, Channel 3 is staffed by one full-time station manager. Operation of the Los Alamitos TV Corporation is overseen by a Board of Directors comprised of six members. The Board of Directors consists of three Los Alamitos' residents; two residents from the unincorporated area of Rossmoor; and, one representative from the Los Alamitos Unified School District.

19.0 Petroleum Pipelines

Several pipelines underlie the City of Los Alamitos. These lines are used to transport oil, gasoline, and crude oil. Figure 5-22 displays the general location of the buried petroleum pipelines located within the City of Los Alamitos.

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

- - - - - City Boundary
 Arco Petroleum Pipeline
 - - - - - Texaco Petroleum Pipeline
 - - - - - Shell Oil Petroleum Pipeline
 - - - - - Powerline Oil Pipeline



General Plan

FIGURE 5-22

The following table identifies these petroleum pipelines by ownership and general location:

TABLE 5-6 -- PIPELINES LOCATED IN THE CITY OF LOS ALAMITOS

Pipeline Owner	Size	Location
Powerline Oil Company	6 inch	Along Cerritos Ave. from west of the western City boundary to Bloomfield Street proceeding north on Bloomfield St. to the north City boundary
Texaco	8 inch	Along Cerritos Ave. from west of the western City boundary to Bloomfield Street proceeding north on Bloomfield St. to the north City boundary.
	4 inch	Along Cerritos Ave. from the west City boundary to Bloomfield St.
	3 inch	Along Bloomfield St. from Cerritos Ave. to the north City boundary
	6 inch	Along Ball Rd. from the east City boundary to Bloomfield St.
	8 inch	Along Ball Rd. from the east City boundary to Bloomfield Street
Shell Oil Company	8 inch	Along Los Alamitos Blvd. from the north City boundary to Cerritos Ave. proceeding west on Cerritos Ave. to the west City boundary
ARCO	10 inch	Along Cerritos Ave. from the west City boundary to the east City boundary

Source: City of Los Alamitos, Office of the City Clerk, October 1996.

A discussion of the potential hazards from a rupture and explosion of the above-described petroleum pipelines is contained in the Background Technical Report for the Safety Element.

EXHIBIT A TRAFFIC IMPACT ANALYSIS

CITY OF LOS ALAMITOS RECONSTRUCTION AND REUSE AREAS & CUMULATIVE AREA PROJECTS

INTRODUCTION

This report has been prepared to determine the traffic and circulation impacts associated with the future development projects within the City of Los Alamitos, and future projects within the City of Seal Beach expected to have an influence on Los Alamitos roadways. Existing traffic data has been collected for the AM, PM peak hour conditions and 24-hour roadway segment arterial highway traffic volumes.

Project traffic from each of the anticipated, future developments has been distributed and assigned to the adjacent street and highway system based on the availability of those streets and the expected travel patterns. In addition to traffic generated by development projects, an annual growth rate of 0.65 percent per year has been included in the evaluation of intersection operations for the Year 2010. The arterial highway 24-hour roadway segment volume evaluations include the Year 2010 volume projections by the Orange County Transportation Analysis Model plus, the volumes expected to be added from reconstruction and reuse projects in the City of Los Alamitos and cumulative projects in the City of Seal Beach.

The AM/PM peak hour volume to capacity relationships of major signalized intersections and arterial highway link traffic volumes have been evaluated by the Intersection Capacity Utilization (ICU) method.

RECONSTRUCTION AND REUSE PROJECT LOCATIONS

The area expected to undergo the most intensive development pressure is generally bounded by the area encompassed by Cerritos Avenue on the north, Chestnut Avenue on the west, Bloomfield Street on the east and Katella Avenue on the south. Figure A presents the specific areas where development is most likely to occur, and includes development within the City of Seal Beach in the vicinity of Seal Beach Boulevard and Lampson Avenue.

Developable properties within Los Alamitos include a 4-acre industrial site located at the northwest corner of Chestnut and Sausalito, the former Briggeman Disposal site on the north side of Sausalito just east of Los Alamitos Blvd. (4 acres), and the former Lew Webb site on Los Alamitos Blvd. between Sausalito and Serpentine (2.25 acres). In addition, the City has purchased the former Post Office property on Pine Street, north of Katella Avenue, and anticipates development of new retail uses in the immediate area.

CITY OF SEAL BEACH CUMULATIVE DEVELOPMENT PROJECTS

Development of a 15 acre church site, a 23 acre commercial shopping center and a 5 acre park site have been identified in the City of Seal Beach. The projects are located on the east side of Seal Beach Boulevard between the Rossmoor Highlands neighborhood in Los Alamitos and the I-405 Freeway.

EXISTING INTERSECTION AND ARTERIAL HIGHWAY LINK CAPACITY UTILIZATION (ICU) AND LEVEL OF SERVICE (LOS)

AM/PM peak period intersection counts were conducted at the major signalized intersections within the City. The count data was analyzed through the use of the Intersection Capacity Utilization (ICU) method which measures current Level of Service (LOS) conditions. The ICU/LOS method of analysis is described in the Appendix of this report along with the manual count information used as part of the ICU calculations for the AM and PM peak hours. A lane capacity of 1,700 vehicles per lane per hour and a clearance interval of 0.05 has been used in evaluating the intersection conditions. This analysis presents a comparison of relative change in intersection operations with the addition of project traffic, cumulative traffic and ambient growth.

Table A presents existing (ICU/LOS) intersection conditions for the AM/PM peak hour conditions. The table indicates all intersections except Los Alamitos/Cerritos are currently operating within acceptable levels of service.

TRAFFIC FORECASTING METHODOLOGY

The traffic forecasting methodology used in this report was one involving professional judgment and information provided by the City. A multiple step process of trip generation, traffic distribution and traffic assignment was used as a basis to evaluate the project impacts on the street and highway system and its various scenarios.

The first step involves the traffic generation forecast. A traffic generation forecast estimates the number of trips that can be expected to be generated by the development during the peak hour periods and over a 24 hour period. The traffic generation potential of a development is normally estimated by multiplying a generally accepted traffic generation rate(s) by the number of specific units such as square feet, dwelling units, employees, etc. Accepted traffic generation rate(s) are generally those published by the Institute of Transportation Engineers (ITE).

The second step involves traffic distribution and recognizes the origins and destinations of inbound and outbound traffic. These origins and destinations are based on largely a review of the demographics of the area or market research. Thirdly, traffic assignment involves the allocation of project traffic estimates to the street and highway system. traffic assignment is typically based upon minimizing travel time which may or may not involve the shortest route, depending on the prevailing operating conditions and travel speeds. With the traffic forecasting process complete and project traffic assignments developed, the impact of the project is evaluated by comparing the operational conditions at the key intersections with project traffic, cumulative traffic and the ambient growth in traffic to the Year 2010.

TRIP GENERATION

Traffic generation is expressed in vehicle trip ends (VTE) where a trip end is defined as a one-way vehicular movement, either entering or departing a land use. Generally, trip generation factors for various developments are based on the number of trip ends per 1,000 SF (TE/1,000 SF) of building area or the number of dwelling units, etc. A commonly used reference for trip generation factors is the Institute of Transportation Engineers (ITE), Trip Generation - An Informational Report, fifth edition, for retail, manufacturing, and other uses. Hence, our trip generation estimates are based on the ITE published study information for those uses.

A “passer-by” factor has been used to arrive at an estimate of new and/or diverted trips associated with the commercial and retail uses. “Passer-by” trips are those defined as trips that would normally use the street and highway system adjacent to the developments who would have two trip-ends within the project. The “passer-by” trips may be of several different types i.e. home-to-shop, home-to-work-to-eat. As a result, while the actual number of trips made to and from the project site driveways are reflected in the trip generation estimate, the number of trips actually added to the street system will be less than that estimated in the trip generation forecast. It should be noted that some trip interaction within commercial sites will occur as some people will combine a shopping trip and eating at the on-site restaurants.

- Reconstruction and Reuse Projects

The trip generation totals for anticipated, future development projects in Los Alamitos total 549 AM peak hour trips (424 inbound, 125 outbound), 1609 PM peak hour trips (812 inbound, 797 outbound) and 15,922 daily trips. These trips are unadjusted totals since a passer-by adjustment has not been made. New retail development along Pine Street north of Katella Avenue has been assumed to have a net gain in trip generation due to increased retail floor area. Table B presents the trip generation for City of Los Alamitos reconstruction and reuse projects.

- City of Seal Beach Cumulative Development Projects

Cumulative projects in the City of Seal Beach are expected to total 745 AM peak hour trips (469 inbound, 276 outbound), 1520 PM peak hour trips (750 inbound, 770 outbound) and 16,452 daily trips. The 23 acre commercial/retail site has been assumed at 35 percent building coverage for purposes of determining trip generation. Passer-by adjustments for the commercial development have not been made to those totals. It should be noted that for the church site, a private school has been assumed to operate to provide a conservative assessment. Table C presents the cumulative Seal Beach project trip generation totals.

TRAFFIC ASSIGNMENT AND DISTRIBUTION

Project and cumulative traffic has been assigned and distributed to the street system using an analysis of existing traffic volume data, map studies and our familiarity with the area. Figure B presents the AM/PM peak hour and 24 hour traffic volumes associated with anticipated, future Los Alamitos development projects and Seal Beach cumulative project traffic. These traffic volumes represent the “new” or added traffic expected to be added to the street and intersections.

TRAFFIC IMPACT ANALYSIS**- Existing + Project Traffic**

Table D presents the AM/PM peak hour ICU/LOS conditions with the addition of project and cumulative traffic. As shown, three intersections are expected to operate with poor ICU/LOS conditions. Those intersections are, 1) Los Alamitos/Katella, 2) Bloomfield/Katella and 3) Los Alamitos/Cerritos.

-Mitigation

The Los Alamitos/Katella and Bloomfield/Katella intersections are to be improved as part of the Katella Smart Street Project. The Katella/Los Alamitos intersection will add a second southbound left turn lane and a third northbound through lane in addition to signalized right-turn overlaps for the exclusive right turn lanes. The addition of new development traffic and cumulative traffic volumes is expected to cause the intersection to operate at an ICU/LOS of 0.94/E. Further mitigation does not appear to be practical.

The Bloomfield/Katella intersection Smart Street project will add a northbound left turn lane, retain the northbound through lane and add a northbound right turn lane in addition to increasing signal phasing to provide for eight phases (adding protected left turn phasing on the north-south movements to separate pedestrian movements from vehicular left turn movements). The mitigation measures are expected to result in a PM peak hour ICU/LOS of 0.86/D. As part of the Smart Street signal improvements, all the Katella intersections will have upgraded signal coordination controls.

The Los Alamitos/Cerritos signal will require the addition of northbound and westbound left turn lanes for mitigation to an ICU/LOS of 0.90/D.

- Existing + Project + Year 2010 Growth

Ambient traffic growth (Year 2010) has been added at an average rate of 0.65 percent per year. With the addition of ambient traffic growth, three intersections are expected to operate at poor levels of service. The I-605/Katella, Los Alamitos/Katella and Los Alamitos/Cerritos Avenue intersections are expected to operate at poor levels of service. The I-605/Katella intersection will add an eastbound HOV left turn lane and an additional westbound through/right turn lane with freeway ramp improvements. The improvements at this intersection are not expected to improve the ICU/LOS (0.91/E) value since the major constraint is the I-605 overpass width in the eastbound direction.

The Los Alamitos/Katella intersection is forecast to operate at poor level of service (ICU/LOS = 0.94/E) during the PM peak hour period by the Year 2010. Additional improvement beyond that provided by the Los Alamitos/Katella Smart Street Project does not appear to be practical.

The Los Alamitos/Cerritos intersection will require a third through lane in the north and south direction and exclusive right turn lanes in the northbound and eastbound direction to attain an ICU/LOS of 0.84/D.

Table E presents the comparison of intersection ICU/LOS for existing, existing + project and existing + project + Year 2010 Growth conditions.

SUMMARY AND CONCLUSIONS

- All key intersections except Los Alamitos/Cerritos are currently operating within acceptable levels of service.

- Reconstruction and reuse areas within Los Alamitos include: a 4 acre industrial site located at the northwest corner of Chestnut and Sausalito; the former resource recovery (Briggeman) site (4.5 acres) on the north side of Sausalito east of Los Alamitos Boulevard; the 2 acre site at the southeast corner of Los Alamitos Boulevard at Sausalito for retail commercial use; and reconstruction and reconfiguration of properties for retail commercial use at the northeast corner of Katella Avenue/Los Alamitos Boulevard.

- Development of a 15 acre church site, a 23 acre commercial shopping center and a 5 acre park site have been identified in the City of Seal Beach.

- The trip generation totals for reconstruction and reuse projects in the City of Los Alamitos total 549 AM peak hour trips (424 inbound, 125 outbound), 1609 PM peak hour trips (812 inbound, 797 outbound) and 15,922 daily trips.

- Cumulative projects in the City of Seal Beach are expected to total 745 AM peak hour trips (469 inbound, 276 outbound), 1520 PM peak hour trips (750 inbound, 770 outbound) and 16,452 daily trips. The 23 acre commercial/retail site has been assumed at 35 percent lot coverage.

-

Existing + Reconstruction and Reuse/Cumulative Traffic

- Three intersections are expected to operate with poor ICU/LOS conditions with the addition of project traffic. Those intersections are, 1) Los Alamitos/Katella, 2) Bloomfield/Katella and 3) Los Alamitos/Cerritos.

The Los Alamitos/Katella and Bloomfield/Katella intersections are planned to be improved with the approved Katella Smart Street Project. The Katella/Los Alamitos intersection will add a second southbound left turn lane and a third northbound through lane in addition to signalized right-turn overlaps for the exclusive right turn lanes. However, the addition of reconstruction and reuse and cumulative traffic volumes the intersection is expected to operate at an ICU/LOS of 0.94/E. Further mitigation does not appear to be practical.

The Bloomfield/Katella intersection Smart Street project will add a northbound left turn lane, retain the northbound through lane and add a northbound right turn lane in addition to increasing signal phasing to provide for eight phases (adding protected left turn phasing on the north-south movements to separate pedestrian movements from vehicular left turn movements). The mitigation measures are expected to result in a PM peak hour ICU/LOS of 0.86/D. As part of the Smart Street signal improvements, all the Katella intersections will have upgraded signal coordination controls.

The Los Alamitos/Cerritos signal will require the addition of northbound and westbound left turn lanes for mitigation to an ICU/LOS of 0.90/D.

Existing + Reconstruction and Reuse/Cumulative + Year 2010 Growth

With the addition of ambient traffic growth, three intersections are expected to operate at poor levels of service. The I-605/Katella, Los Alamitos/Katella and Los Alamitos/Cerritos Avenue intersections are expected to operate at poor levels of service. The I-605/Katella intersection will add an eastbound HOV left turn lane and an additional westbound through/right turn lane with freeway ramp improvements. The improvements at this intersection are not expected to improve the ICU/LOS (0.91/E) value since the major constraint is the I-605 overpass width in the eastbound direction.

The Los Alamitos/Katella intersection is forecast to operate at poor level of service (ICU/LOS = 0.94/E) during the PM peak hour period by the Year 2010. Additional improvement beyond that provided by the Los Alamitos/Katella Smart Street Project does not appear to be practical.

The Los Alamitos/Cerritos intersection will require a third through lane in the north and south direction and exclusive right turn lanes in the northbound and eastbound direction to attain an ICU/LOS of 0.84/D.

TABLE A
EXISTING INTERSECTION CONDITIONS
INTERSECTION CAPACITY UTILIZATION (ICU)/
LEVEL OF SERVICE (LOS)

INTERSECTION	AM PK HOUR ICU/LOS	PM PK HOUR ICU/LOS
I-605 RAMP/ KATELLA AVENUE	0.65/B	0.72/C
WALLINGSFORD/ WALNUT/ KATELLA AVENUE	0.69/B	0.64/B
LOS ALAMITOS/ KATELLA AVENUE	0.85/D	0.85/D
CHERRY/ KATELLA AVENUE	0.53/A	0.61/B
BLOOMFIELD/ KATELLA AVENUE	0.80/C	0.90/D
LEXINGTON/ KATELLA AVENUE	0.47/A	0.55/A
CERRITOS/ LOS ALAMITOS	0.81/D	0.94/E
SAULSALITO/ KATELLA AVENUE	0.51/A	0.53/A
FARQUHAR/ LOS ALAMITOS	0.50/A	0.55/A
HUMBOLT/ CERRITOS	0.49/A	0.48/A
BLOOMFIELD/ CERRITOS	0.57/A	0.57/A
BALL ROAD/ BLOOMFIELD	0.50/A	0.52/A

TABLE B

**TRIP GENERATION FORECAST
CITY OF LOS ALAMITOS
RECONSTRUCTION AND REUSE PROJECTS &
CITY OF SEAL BEACH CUMULATIVE PROJECTS**

CITY OF LOS ALAMITOS RECONSTRUCTION AND REUSE PROJECTS

Location A.) 4.5 Acres + 6.5 Acres combined for 11 Acres of Specialty Retail, base assumption is 35% coverage, 11 Acres x 43,560 SF x 35% = 167,710 SF of Specialty Retail.

Trip Generation per ITE Equation

$$24 \text{ Hour Trip Generation/KSF} = 58.22 \text{ T.E./KSF} \times 167.71 \text{ KSF} = 9,764 \text{ T.E.}$$

$$\begin{aligned} \text{AM Peak Hour} &= 1.31 \text{ T.E.} \times 167.71 \text{ KSF} = 220 \text{ T.E.} \\ (63\% \text{ inbound, } 37\% \text{ outbound}) &= (139 \text{ T.E. inbound, } 81 \text{ T.E. outbound}) \end{aligned}$$

$$\begin{aligned} \text{PM Peak Hour} &= 0.72 \text{ T.E.} \times 167.71 \text{ KSF} = 912 \text{ T.E.} \\ (50\% \text{ inbound, } 50\% \text{ outbound}) &= (456 \text{ T.E. inbound, } 456 \text{ T.E. outbound}) \end{aligned}$$

Location B.) 4 Acres Industrial use, assumption is 45% coverage, 4 acres x 43,560 SF x 45% = 78,208 SF.

Trip Generation per ITE Equation

$$24 \text{ Hour Trip Generation/KSF} = 17.56 \text{ T.E./KSF} \times 78,410 \text{ SF} = 1,268 \text{ T.E.}$$

$$\begin{aligned} \text{AM Peak Hour} &= 3.30 \text{ T.E./KSF} \times 78,410 \text{ KSF} = 259 \text{ T.E.} \\ (93\% \text{ inbound, } 7\% \text{ outbound}) &= (241 \text{ T.E. inbound, } 18 \text{ T.E. outbound}) \end{aligned}$$

$$\begin{aligned} \text{PM Peak Hour} &= 3.15 \text{ T.E./KSF} \times 78,410 \text{ KSF} = 247 \text{ T.E.} \\ (53\% \text{ inbound, } 47\% \text{ outbound}) &= (131 \text{ T.E. inbound, } 116 \text{ T.E. outbound}) \end{aligned}$$

Location C.) Existing commercial/office space at the northeast corner of Katella Avenue/Los Alamitos Boulevard. Assume that the project site becomes all specialty retail for a net gain in trip ends.

Trip Generation per ITE Equation

$$24 \text{ Hour Trip Generation/KSF} = 58.22 \text{ T.E./KSF} \times 83,855 \text{ SF} = 4,890 \text{ T.E.}$$

$$\begin{aligned} \text{AM Peak Hour} &= 1.31 \text{ T.E./KSF} \times 83,855 \text{ SF} = 70 \text{ T.E.} \\ (63\% \text{ inbound, } 37\% \text{ outbound}) &= 44 \text{ T.E. inbound, } 26 \text{ T.E. outbound} \end{aligned}$$

$$\begin{aligned} \text{PM Peak Hour} &= 0.72 \text{ T.E./KSF} \times 83,855 \text{ KSF} = 450 \text{ T.E.} \\ (50\% \text{ inbound, } 50\% \text{ outbound}) &= 225 \text{ T.E. inbound, } 225 \text{ T.E. outbound} \end{aligned}$$

TABLE C

**TRIP GENERATION FORECAST
CITY OF SEAL BEACH CUMULATIVE DEVELOPMENT PROJECTS**

CITY OF SEAL BEACH CUMULATIVE PROJECTS

Location D.) 23 Acre Commercial Site, assumed coverage at 35%, 23 acres x 43,560 SF x 35% = 350,658 SF.

$$24 \text{ Hour Trip Generation} = 44.15 \text{ T.E./KSF} \times 350.658 \text{ KSF} = 15,480 \text{ T.E.}$$

$$\begin{aligned} \text{AM Peak Hour} &= 0.97 \text{ T.E./KSF} \times 350.658 \text{ KSF} = 340 \text{ T.E.} \\ (63\% \text{ inbound, } 37\% \text{ outbound}) &= (214 \text{ T.E. inbound, } 126 \text{ T.E. outbound}) \end{aligned}$$

$$\begin{aligned} \text{PM Peak Hour} &= 4.16 \text{ T.E./KSF} \times 350.658 \text{ KSF} = 1,459 \text{ T.E.} \\ (50\% \text{ inbound, } 50\% \text{ outbound}) &= (730 \text{ T.E. inbound, } 730 \text{ T.E. outbound}) \end{aligned}$$

Location E.) 15 Acre Church Site, Although typical week day church traffic generation is relatively low, a church school (private) is assumed for week day operation, 435 students are assumed.

Trip generation Factors (Elementary school) as follows:

$$24 \text{ Hour} = 1.38 \text{ T.E./Student}$$

$$\text{AM Peak Hour} = 0.586/0.344/0.93 = (\text{inbound/outbound/total})$$

$$\text{PM Peak Hour} = 0.43/0.087/0.13 = (\text{inbound/outbound/total})$$

$$24 \text{ Hour Total} = 1.38 \text{ T.E.} \times 435 \text{ Students} = 600 \text{ T.E.}$$

$$\text{AM Peak Hour} = 255 \text{ T.E. inbound, } 150 \text{ T.E. outbound.}$$

$$\text{PM Peak Hour} = 20 \text{ T.E. inbound, } 40 \text{ T.E. outbound.}$$

Location F.) 5 Acre Park Site.

Trip Generation per ITE

AM/PM Peak Hour trips are nominal since trips are other than on-street peak hours.

$$24 \text{ Hour} = 2.23 \text{ T.E./Acre} \times 5 \text{ Acres} = 10 \text{ to } 12 \text{ trips, weekday.}$$

TABLE D
EXISTING + PROJECTS, INTERSECTION CONDITIONS
INTERSECTION CAPACITY UTILIZATION (ICU)/
LEVEL OF SERVICE (LOS)

INTERSECTION	EXISTING CONDITIONS	EXIST + PROJECT
	AM PK HOUR/PM PK HOUR ICU/LOS-ICU/LOS	AM PK HOUR/PM PK HOUR ICU/LOS-ICU/LOS
I-605 RAMP/ KATELLA AVENUE	0.65/B-0.72/C	0.53/A-0.85/D*
WALLINGSFORD/ WALNUT/ KATELLA AVENUE	0.69/B-0.64/B	0.76/C-0.71/C
LOS ALAMITOS/ KATELLA AVENUE	0.85/D-0.85/D	0.88/D- 0.94/E*
CHERRY/ KATELLA AVENUE	0.53/A-0.61/B	0.53/A-0.63/B
BLOOMFIELD/ KATELLA AVENUE	0.80/C-0.90/D	0.79/C-0.81/D*
LEXINGTON/ KATELLA AVENUE	0.47/A-0.55/A	0.40/A-0.58/A
CERRITOS/ LOS ALAMITOS	0.81/D- 0.94/E	0.90/D-0.90/D*
SAUSALITO/ KATELLA AVENUE	0.51/A-0.53/A	0.55/A-0.61/B
FARQUHAR/ LOS ALAMITOS	0.50/A-0.55/A	0.53/A-0.62/B
HUMBOLT/ CERRITOS	0.49/A-0.48/A	0.50/A-0.51/A
BLOOMFIELD/ CERRITOS	0.57/A-0.57/A	0.58/A-0.57/A
BALL ROAD/ BLOOMFIELD	0.50/A-0.52/A	0.52/A-0.53/A

*=Mitigated

TABLE E
EXISTING + PROJECTS, INTERSECTION CONDITIONS
INTERSECTION CAPACITY UTILIZATION (ICU)/
LEVEL OF SERVICE (LOS)

INTERSECTION	EXISTING CONDITIONS AM PEAK HOUR/PM PEAK HOUR ICU/LOS-ICU/LOS	EXISTING + PROJECT AM PEAK HOUR/PM PEAK HOUR ICU/LOS-ICU/LOS	EXIST + PROJECT + YEAR 2010 AM PEAK HOUR/PM PEAK HOUR ICU/LOS-ICU/LOS
I-605 RAMP/ KATELLA AVENUE	0.65/B-0.72/C	0.53/A-0.72/C*	0.57/A-0.91/E*
WALLINGSFORD/ WALNUT/ KATELLA AVENUE	0.69/B-0.64/B	0.76/C-0.71/C	0.79/C-0.75/C
LOS ALAMITOS/ KATELLA AVENUE	0.85/D-0.85/D	0.80/C-0.94/E*	0.80/C-0.94/E*
CHERRY/ KATELLA AVENUE	0.53/A-0.61/B	0.53/A-0.63/B	0.57/A-0.67/B
BLOOMFIELD/ KATELLA AVENUE	0.80/C-0.90/D	0.79/C-0.81/D*	0.70/B-0.86/D*
LEXINGTON/ KATELLA AVENUE	0.47/A-0.55/A	0.40/A-0.58/A	0.52/A-0.61/B
CERRITOS/ LOS ALAMITOS	0.81/D-0.94/E	0.70/B-0.90/ D*	0.68/B-0.84/D*
SAULSALITO/ KATELLA AVENUE	0.51/A-0.53/A	0.55/A-0.61/B	0.58/A-0.65/B

TABLE E (Continued)

**EXISTING + PROJECTS, INTERSECTION CONDITIONS
INTERSECTION CAPACITY UTILIZATION (ICU)/
LEVEL OF SERVICE (LOS)**

INTERSECTION	EXISTING CONDITIONS AM PEAK HOUR/PM PEAK HOUR ICU/LOS-ICU/LOS	EXISTING + PROJECT AM PEAK HOUR/PM PEAK HOUR ICU/LOS-ICU/LOS	EXIST + PROJECT + YEAR 2010 AM PEAK HOUR/PM PEAK HOUR ICU/LOS-ICU/LOS
FARQUHAR/ LOS ALAMITOS	0.50/A-0.55/A	0.53/A-0.62/B	0.57/A-0.66/B
HUMBOLT/ CERRITOS	0.49/A-0.48/A	0.50/A-0.51/A	0.53/A-0.54/A
BLOOMFIELD/ CERRITOS	0.57/A-0.57/A	0.58/A-0.57/A	0.62/B-0.62/B
BALL ROAD/ BLOOMFIELD	0.50/A-0.52/A	0.52/A-0.53/A	0.56/A-0.57/A

* = Mitigated

CHAPTER 6 - NOISE ELEMENT

Background Technical Report

INTRODUCTION

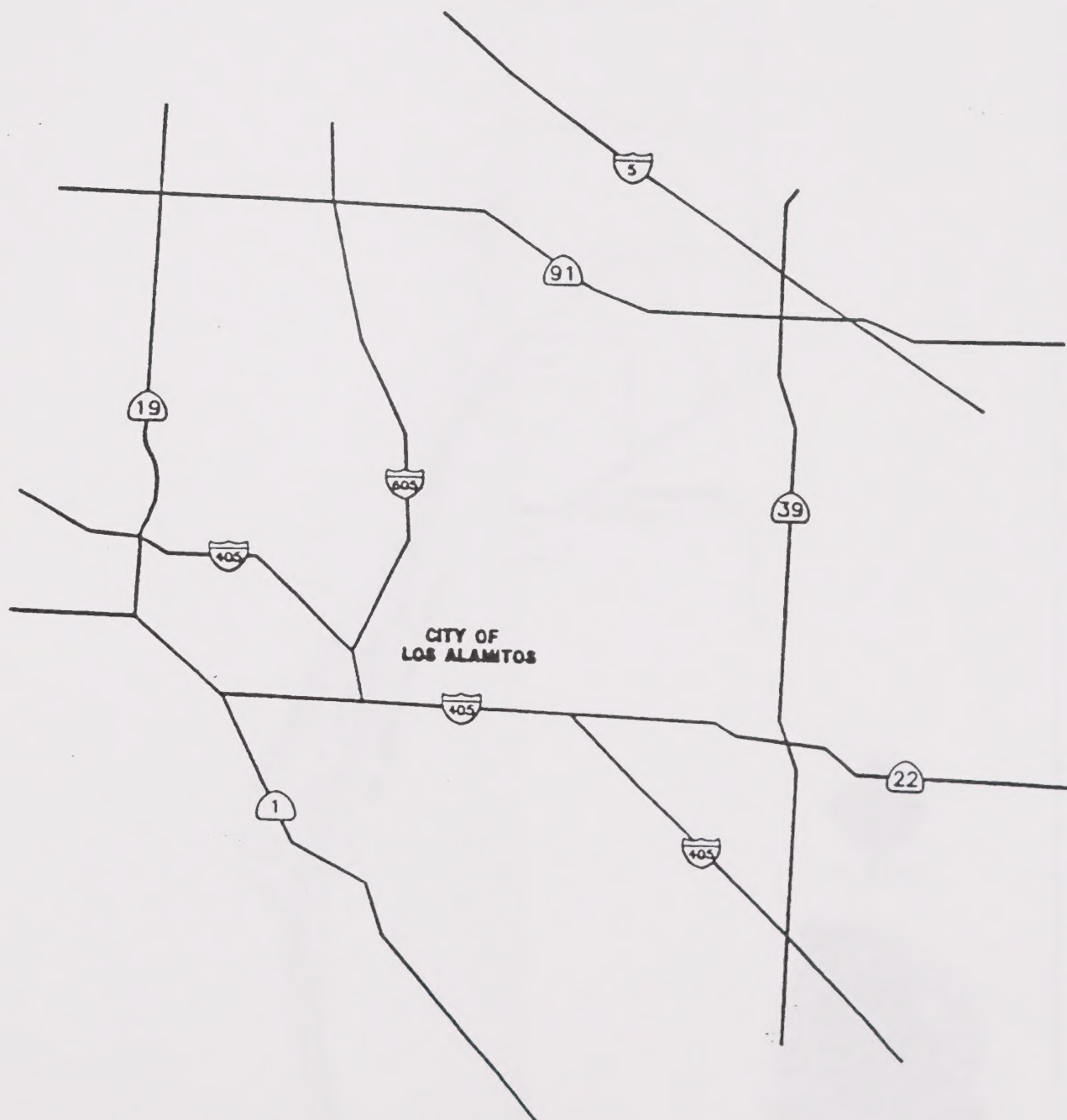
This report presents the technical analysis of the noise environment for the City of Los Alamitos General Plan program. The purpose of this noise assessment is to: (1) review the existing noise documents and analysis procedures; (2) identify potential noise sources; (3) model existing noise impacts; (4) model future noise impacts based on the general plan daily traffic volumes contained in the Circulation Element Traffic Study; (5) provide additional discussion of noise standards, traffic noise and other impacts; and (6) produce the City of Los Alamitos noise contour maps for both the existing and future noise environments.

The purpose of the general plan is to provide a comprehensive set of planning elements to guide the City in all aspects of future development. The noise element is directly related to the land use and circulation elements. The location of sensitive land uses including housing, schools and medical facilities are also affected by issues addressed in the noise element. The location of the City of Los Alamitos is shown on Exhibit A.

Sources of noise can be divided into two basic categories: transportation related sources and non-transportation sources. The existing noise environment surrounding the City of Los Alamitos is influenced primarily by transportation related noise sources. These transportation related noise sources include traffic noise from nearby roadways (i.e., I-605 Freeway, Katella Avenue and Los Alamitos Boulevard). Aircraft noise from the Los Alamitos Armed Forces Reserve Center also contributes additional transportation related noise impacts. The roadway network for the City of Los Alamitos is shown on Exhibit B. Secondary sources of noise include the impact of non-transportation or stationary noise sources. The following were identified as stationary noise sources, which may exist in the City of Los Alamitos:

- * air conditioning units
- * power generators
- * drive-through speakerphones
- * air compressors
- * outdoor loudspeakers
- * school bells
- * power equipment (chainsaws, drills, etc.)

**EXHIBIT A
LOCATION MAP**

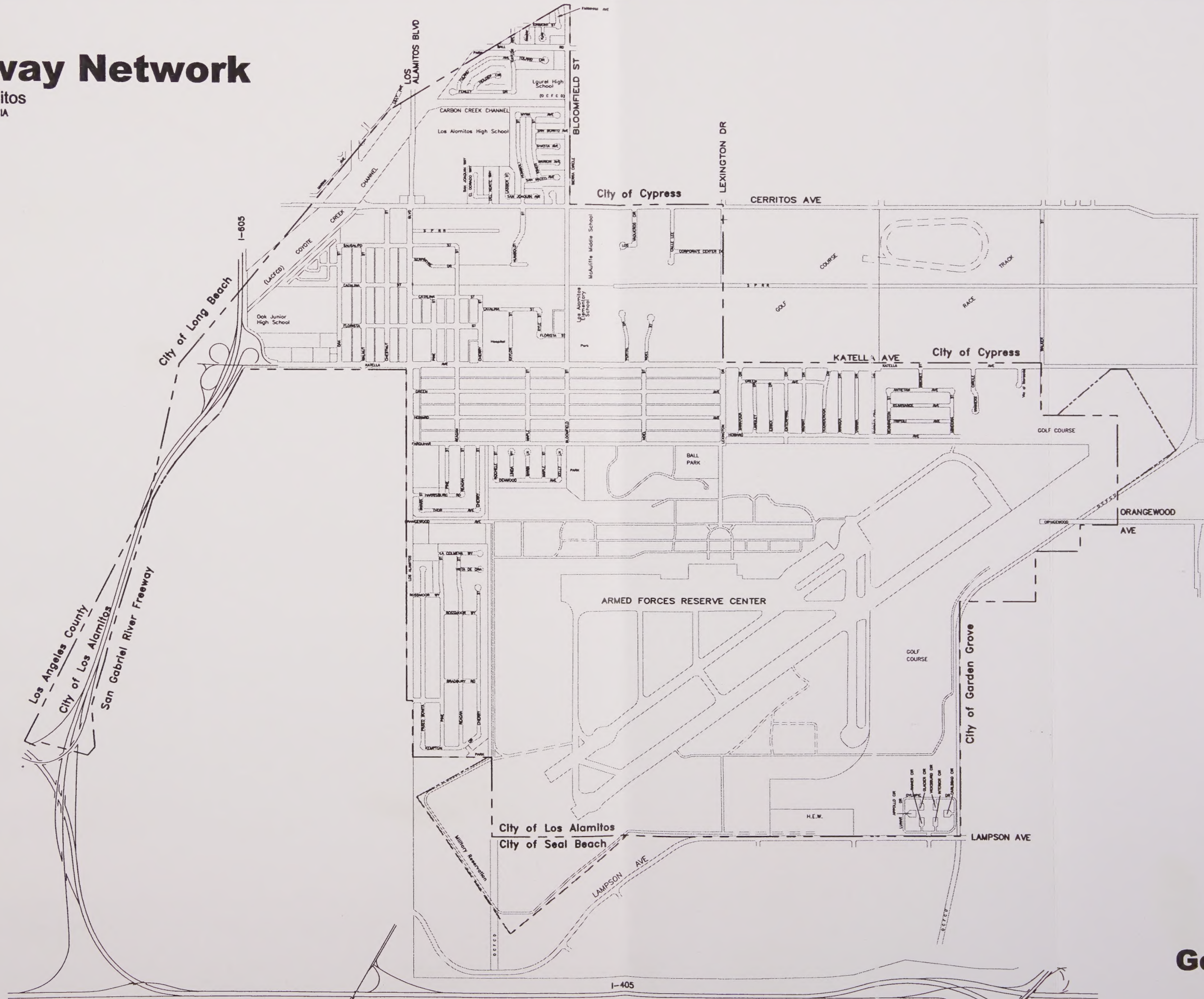


Roadway Network

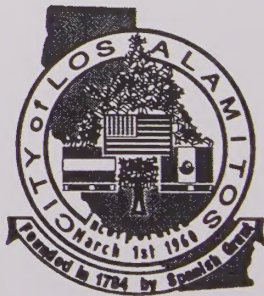
City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

LEGEND

--- City Boundary



NOT TO SCALE



General Plan

Exhibit B

The City of Los Alamitos may elect to examine future development from a noise standpoint if the listed stationary noise sources are proposed.

NOISE STANDARDS AND CRITERIA

Various noise rating scales, noise standards, community noise assessment criteria and noise mitigation measures are discussed in the following paragraphs. The purpose of this information is to provide a brief overview of how noise is evaluated and various standards used in the City of Los Alamitos. Acoustical terms used in this study are further summarized in Appendix "A".

Noise Rating Scales

A number of noise rating scales are used in California for land use compatibility assessment. These scales are: the Equivalent Noise Level (LEQ), the Day Night Noise Level (LDN), and the Community Noise Equivalent Noise Level (CNEL). These scales are described in the following paragraphs:

- * A-weighted decibels (dBA) are the most common units used for measuring the loudness of a noise event. The human ear has different sensitivity to different frequencies of sound (noise). A-weighting is an attempt to give the noise monitor the same frequency sensitivity as the human ear. Technically, it is the measurement of the energy being received when listening to (or monitoring) a source of noise. For example, the loudness of a highway may be 65 dBA when measured 50 feet away. The sound decreases as one moves away from the source, and the same highway would have a noise level of 62 dBA at 100 feet. The relationship between how one perceives a sound and the actual sound energy emitted by the source of noise is very complex. However, a good rule of thumb is that if a noise increases 10 dBA, its apparent loudness will double. Therefore, a noise that is 70 dBA will appear twice as loud as a 60 dBA noise.
- * The LEQ scale represents the energy average noise level over a sample period of time. It represents the decibel sound level that would contain the same amount of energy as a fluctuating sound level over the sample time period.
- * The LDN scale represents a time weighted 24 hour average noise level based on the A-weighted decibel. Time weighted refers to the fact that noise occurs during certain sensitive time periods is penalized for occurring at these times. For the LDN scale the nighttime period (10:00 PM and 7:00 AM) noises are penalized by 10 dBA.
- * The CNEL scale is similar to the LDN scale except that it includes an additional 5 dBA penalty for the evening time period (7:00 PM to 10:00 PM).

Noise Standards

The County of Orange General Plan Noise Element has established maximum noise level standards for different types of land uses within the County, based upon existing Federal and State guidelines.

For noise sensitive land uses, the County limits exterior noise levels to below 65 dBA CNEL and interior noise levels to below 45 dBA CNEL. Sensitive receptors include, but are not limited to, schools, churches, and residential uses.

The City of Los Alamitos has adopted noise referral zones as the criterion for assessing the compatibility of residential land uses with transportation related noise sources. Noise referral zones are those areas within the contour that defines a CNEL level of 60 decibels. It is the level at which planning for future noise sensitive land uses should consider acoustical impacts. Noise sensitive land uses include residences of all types, rest homes, hospitals, places of worship and schools.

Exhibit C presents the State of California General Plan Noise Compatibility Matrix Guidelines for various land use categories.

Noise Ordinance Criteria

The City of Los Alamitos adopted Noise Ordinance, (Appendix "B") sets criteria for residential areas impacted by stationary noise sources, including "not to exceed" noise levels for various periods of time and regulations/exceptions for special activities.

A summary of the City of Los Alamitos not-to-exceed exterior noise level criteria is presented in Table 6-1. The ordinance requires noise levels shown in Table 6-1 to be reduced by 5 dBA if the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof. In the event the ambient noise level exceeds any of the noise limits of Table 6-1, the maximum allowable noise level of the first noise limit category or the cumulative period applicable to the other noise limit categories shall be increased to reflect the existing ambient conditions.

Community Noise Assessment Criteria

In community noise assessment, changes in noise levels greater than 3 dBA are often identified as significant, while changes less than 1 dBA will not be discernible to the human ear. In the range of 1 dBA to 3 dBA people who are very sensitive to noise may perceive a slight change in noise level. No scientific evidence is available to support the use of 3 dBA as the significance threshold. In laboratory testing situations, humans are able to detect noise level changes of slightly less than 1 dBA. However, in a community situation the noise exposure is extended over a long time period, and changes in noise levels occur over years, rather than the immediate comparison made in a laboratory situation. Therefore, the level at which changes in community noise levels become discernible is likely to be some value greater than 1 dBA, and 3 dBA appears to be appropriate for most people.

EXHIBIT C

NOISE COMPATIBILITY MATRIX

Land Use Category	Community Noise Exposure Ldn or CNEL, dB					
	55	60	65	70	75	80
Residential - Low density Single Family, Duplex, Mobile Homes						
Residential - Multiple Family						
Transient Lodging - Motels, Hotels						
Schools, Libraries, Churches, Hospitals, Nursing Homes						
Auditoriums, Concert Halls, Amphitheaters						
Sports Arena, Outdoor Spectator Sports						
Playgrounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Recreation, Cemeteries						
Office Buildings, Business, Commercial and Professional						
Industrial, Manufacturing, Utilities, Agriculture						

INTERPRETATION:



Normally Acceptable
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



Conditionally Acceptable
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



Normally Unacceptable
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



Clearly Unacceptable
New construction or development should generally not be undertaken.

SOURCE: STATE OF CALIFORNIA GENERAL PLAN
GUIDELINES, NOVEMBER 1990

**TABLE 6-1
NOISE ORDINANCE EXTERIOR NOISE LEVEL CRITERIA**

NOT-TO-EXCEED EXTERIOR NOISE LEVEL (dBA)		MAXIMUM CUMULATIVE DURATION/HOUR ¹	SYMBOL
7:00 AM TO 10:00 PM	10:00 PM TO 7:00 AM		
75 ²	70	0 Minutes	L _{max}
70	65	1 Minute	L ₂
65	60	5 Minutes	L ₈
60	55	15 Minutes	L ₂₅
55	50	30 Minutes	L ₅₀

¹ Higher levels allowed if existing ambient conditions exceed this value.

² Longer durations allowed if existing ambient conditions exceed this value.

NOISE MONITORINGMeasurement Procedure and Criteria

To determine the existing noise level environment and to assess potential noise impacts on the adjacent residential areas, noise measurements were taken at twelve (12) locations. Noise monitoring locations were selected based on their proximity to major noise sources. In the City of Los Alamitos, the primary noise impacts are from traffic on the City streets. The measurements reflect the typical traffic noise impacts which occur throughout the City. It should also be noted that the noise levels measured on any particular section of roadway (i.e., Site 12) can be used to estimate noise impacts along the entire segment. Exhibit D illustrates the noise monitoring locations. Ambient noise measurements were taken on July 16, 1997.

Noise measurements were taken using a LARSON-DAVIS Model 700 precision integrating sound level meter, programmed, in "slow" mode, to record noise levels in "A" weighted form. The sound level meter was calibrated before and after the monitoring with a LARSON-DAVIS calibrator, Model CA 250. The sound level meter and microphone were mounted on a tripod, five feet above the ground and equipped with a windscreen during all measurements. The above instrument automatically calculates the "percent noise levels" (L_n) for any specific time period.

The percent noise level " L_n " is useful to evaluate intermittent noise sources. The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{90} is the noise level exceeded 90 percent of the time measured, commonly used to estimate the "ambient" noise level. L_{50} is the noise level exceeded 50 percent of the time measured and can be seen as the "average" noise level. L_{10} is the noise level exceeded 10 percent of the time measured, and represents the peak or intrusive noise level.

Noise Measurement Locations

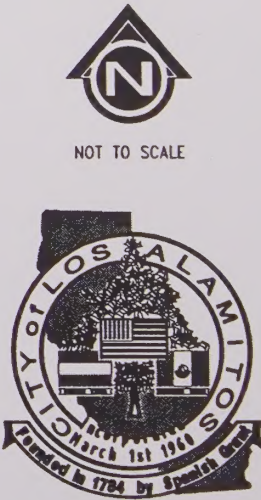
The noise monitoring locations identified on Exhibit D were selected based on their proximity to potential noise sources and feedback from City staff. As a result, nearly all twelve noise measurements were taken near the major roadways throughout the City. While some additional noise sources may be audible over a 24-hour period, the overwhelming source of noise is generated from traffic on City streets.

- Site 1: Noise level measurements for Site 1 were taken on the west side of Los Alamitos Boulevard north of Cerritos Avenue approximately 50 feet from the street centerline. The noise monitor was placed in front of Gatherton & Associates.
- Site 2: The noise monitor was located on the west side of Bloomfield Street (next to the bus stop) north of Cerritos Avenue approximately 39 feet from the street centerline.
- Site 3: Located on Cerritos Avenue approximately 50 feet from the street center west of Los Alamitos Boulevard, Site 3 was monitored in front of California Western Financial.

Noise Monitoring Locations

City of Los Alamitos
ORANGE COUNTY - CALIFORNIA

- LEGEND**
- City Boundary
 - ⑦ Noise Monitoring Location Number



General Plan

Exhibit D

- Site 4: The fourth location was situated near the intersection of Humbolt Street and Cerritos Avenue, approximately 49 feet from the street centerline.
- Site 5: Noise level measurements for Site 5 were taken next to the Church of Latter Day Saints approximately 50 feet from the centerline of Cerritos Avenue.
- Site 6: At Site 6, the noise monitor was located near Barr Lumber Company north of the railroad tracks approximately 50 feet from the centerline of Los Alamitos Boulevard.
- Site 7: Located near the Los Alamitos Elementary School, noise level measurements were taken approximately 50 feet from the centerline of Bloomfield Street.
- Site 8: Noise levels measurements for Site 8 were taken approximately 50 feet north from the centerline of Katella Avenue near City Hall.
- Site 9: Also taken approximately 50 feet north of Katella Avenue centerline, noise level measurements were taken in front of the Arrowhead Products building near Noel Street.
- Site 10: The tenth location was monitored approximately 50 feet south of the Katella Avenue centerline opposite the Los Alamitos Race Track near Siboney Street.
- Site 11: Located near the intersection of Bennington Street, noise measurements were taken from Howard Avenue approximately 28 feet from the street centerline.
- Site 12: At the last site, the noise monitor was located north of Rossmoor Way approximately 50 feet from the centerline of Los Alamitos Boulevard.

Measurement Results

The results of the noise level measurements are presented in Table 6-2. Each site was monitored for a minimum time period of 10 minutes. Based on the noise measurement results presented in Table 6-2, the project site currently experiences an ambient noise level of ranging from Leq = 60.9 dBA at Site 1 to Leq = 74.9 dBA at Site 8. Noise levels at these locations were influenced primarily from the adjoining roadways.

EXTERIOR NOISE ENVIRONMENTAL ANALYSIS

Noise sensitive land uses in the City of Los Alamitos are impacted primarily by traffic noise from area roadways and aircraft noise from the Los Alamitos Armed Forces Reserve Center (AFRC). Typical noise sensitive land uses include residential of all types, rest homes, hospitals, and places of worship and schools.

TABLE 6-2
EXISTING NOISE LEVEL MEASUREMENTS³

SITE NO. ⁴	NOISE							ESTIMATE D CNEL
	Leq	L _{max}	L _{min}	L ₂	L ₈	L ₂₅	L ₅₀	
1	70.6	75.0	50.5	74.0	73.0	72.0	70.5	74.1
2	70.5	88.5	46.0	77.5	74.5	70.5	65.5	74.0
3	69.3	83.0	54.0	76.5	72.5	69.5	66.5	72.8
4	69.1	78.5	56.0	75.5	72.5	70.0	67.0	72.6
5	67.3	81.0	49.5	74.0	71.0	68.0	64.0	70.7
6	68.4	77.5	53.0	74.0	72.0	70.0	66.5	71.7
7	66.1	79.0	53.5	73.0	70.0	67.0	63.5	69.2
8	74.9	87.5	56.0	82.5	79.0	75.5	71.0	78.0
9	68.6	82.5	50.0	75.0	72.0	69.0	66.5	70.5
10	71.8	88.0	48.0	78.5	76.0	72.5	67.0	73.7
11	60.9	71.0	49.0	67.0	63.5	62.0	60.5	64.4
12	73.8	81.0	56.5	78.5	77.0	75.0	73.0	77.2

³ As measured by ROBERT KAHN, JOHN KAIN & ASSOCIATES, INC. on 7/16/97 and 7/17/97.

⁴ See Exhibit D for the location of the monitoring sites.

Traffic Noise Prediction

The expected roadway noise impacts were projected using a version of the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (FHWA-RD-77-108), together with several key roadway site parameters. The key input parameters, which determine the projected impact of vehicular traffic noise, include the roadway classification (e.g. collector, secondary, major, arterial, multi-modal corridor or freeway), the roadway active width (the distance between the center of the outer most travel lanes on each side of the roadway), the total vehicle count per day (ADT), the travel speed, the percentages of automobiles, medium trucks and heavy trucks in the roadway volume, the roadway grade, the angle of view, the site conditions ("hard" or "soft") and the percentage of total average daily traffic (ADT), which flows each hour throughout a 24 hour period.

To account for the ground-effect attenuation, soft site conditions were used to calculate all noise contours. Soft site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. A drop-off rate of 4.5 dBA per doubling of distance is typically observed over soft ground, as compared with a 3.0 dBA drop-off rate over hard ground such as concrete, stone and very hard packed earth.

The traffic volumes and travel speeds used for this study are presented in Table 6-3. The traffic volumes shown in Table 6-3 were obtained from the circulation element traffic study. The average travel speeds shown in Table 6-3 are expected to occur during smooth traffic flows on subject roadways. It should be noted that these speeds are used for comparison calculations and consequently their change in value is more relevant than their absolute value. For the purpose of this study all calculations were made with the speed values shown in Table 6-3. Soft site conditions (drop-off rate = 4.5 dBA per doubling of distance) were used to calculate all noise contours.

Expected future roadway parameter information for the percentages of automobile, medium trucks and heavy trucks along with the 24 hourly percentage of traffic flow breakdown were taken from a 1975 Orange County study of 31 major intersections. The roadway and site parameter values used to project future roadway noise impacts are presented in Table 6-4.

Traffic Noise Contours

The data presented in Tables 6-3 and 6-4 were used with the FHWA traffic noise prediction model to determine the traffic noise contours (CNEL). The computed traffic noise levels are expressed in terms of CNEL. Computer printouts in terms of CNEL are included in Appendix "C".

The distances to the CNEL contours for roadways in the project's vicinity are presented in Tables 6-5 and 6-6, for respectively the existing, and future Year 2020 traffic volumes. The distances shown (in feet) are measured from the centerline of the road to the contour value shown. Also included in Tables 6-5 and 6-6 is the CNEL level at a distance of 100 feet from the highway centerline.

TABLE 6-3

AVERAGE DAILY TRAFFIC (1,000's) AND TRAVEL SPEEDS

ROAD	LOCATION NUMBER	SEGMENT	AVERAGE DAILY TRAFFIC (1,000's)		POSTED TRAVEL SPEEDS (MPH) ¹
			EXISTING	FUTURE YEAR 2020	
Ball Rd.	1	W/O Bloomfield St.	N/A	23.4	40
Cerritos Ave.	2	W/O Los Alamitos Blvd.	25.1	27.2	40
	3	W/O Bloomfield St.	23.9	31.1	35
	4	W/O Lexington Rd.	N/A	28.4	40
	5	W/O Walker St.	N/A	26.3	40
Katella Ave.	6	W/O Los Alamitos Blvd.	57.9	69.0	35
	7	W/O Bloomfield St.	50.1	57.6	35
	8	W/O Lexington Rd.	42.9	56.3	35
	9	W/O Walker St.	42.9	47.6	40
Los Alamitos Blvd.	10	N/O Cerritos Ave.	21.2	33.5	35
	11	N/O Katella Ave.	29.0	48.0	35
	12	N/O Farquhar Ave.	37.8	47.8	35
	13	S/O Bradbury Way	37.8	55.2	40
Bloomfield St.	14	N/O Cerritos Ave.	13.7	19.3	40
	15	N/O Katella Ave.	16.3	19.4	35

¹ Source: City of Los Alamitos Engineering & Traffic Survey for Speed Limits, January 1993.

N/A: Existing Traffic Count Data Unavailable

TABLE 6-4

ARTERIAL ROADWAY HOURLY TRAFFIC FLOW DISTRIBUTION

MOTOR-VEHICLE TYPE	DAY (7 AM TO 7 PM)	EVENING (7 PM TO 10 PM)	NIGHT (10 PM TO 7 AM)	TOTAL % TRAFFIC FLOW
Automobiles	77.5	12.9	9.8	100.0
Medium Trucks	84.8	4.9	10.3	100.0
Heavy Trucks	86.5	2.7	10.8	100.0

ARTERIAL ROADWAY TRAFFIC VEHICLE DISTRIBUTION

AUTOMOBILES	MEDIUM TRUCKS	HEAVY TRUCKS
97.42	1.84	0.74

TABLE 6-5

EXISTING NOISE CONTOURS

ROAD	LOCATION NUMBER	SEGMENT	CNEL AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FT.)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Cerritos Ave.	2	W/O Los Alamitos Blvd.	65.0	47	100	216
	3	W/O Bloomfield St.	63.4	36	78	168
Katella Ave.	6	W/O Los Alamitos Blvd.	67.5	68	147	316
	7	W/O Bloomfield St.	66.9	62	133	287
	8	W/O Lexington Rd.	66.2	56	120	259
	9	W/O Walker St.	67.6	69	150	322
Los Alamitos Blvd.	10	N/O Cerritos Ave.	63.1	35	75	162
	11	N/O Katella Ave.	64.5	43	93	200
	12	N/O Farquhar Ave.	65.7	51	111	238
	13	S/O Bradbury Way	67.1	64	137	296
Bloomfield St.	14	N/O Cerritos Ave.	62.3	30	66	142
	15	N/O Katella Ave.	61.6	28	59	128

TABLE 6-6

GENERAL PLAN BUILDOUT NOISE CONTOURS

ROAD	LOCATION NUMBER	SEGMENT	CNEL AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FT.)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Ball Rd.	1	W/O Bloomfield St.	64.7	44	95	204
Cerritos Ave.	2	W/O Los Alamitos Blvd.	65.4	49	106	228
	3	W/O Bloomfield St.	64.7	44	95	205
	4	W/O Lexington Rd.	64.1	41	88	189
	5	W/O Walker St.	63.8	39	83	179
Katella Ave.	6	W/O Los Alamitos Blvd.	68.3	77	165	356
	7	W/O Bloomfield St.	67.5	68	146	315
	8	W/O Lexington Rd.	67.4	67	144	311
	9	W/O Walker St.	68.1	74	160	345
Los Alamitos Blvd.	10	N/O Cerritos Ave.	65.1	47	102	220
	11	N/O Katella Ave.	66.7	60	130	279
	12	N/O Farquhar Ave.	66.7	60	129	279
	13	S/O Bradbury Way	68.7	82	177	381
Bloomfield St.	14	N/O Cerritos Ave.	63.8	38	83	178
	15	N/O Katella Ave.	62.4	31	67	144

Exhibits E and F outline the projected 60, 65 and 70 dBA CNEL noise contour boundaries. It should be noted that these projections are for "soft site" conditions and do not include the shielding that would be provided by walls/berms, intervening development and/or terrain features. It should also be noted that the 1 foot resolution tabulated is a computational artifact that has been retained for illustrative purposes. The actual precision of the calculations is on the order of 10 to 20% of the distance due to the various assumptions used in the calculations. The calculations are based on projections for ADT and vehicle mix some time in the future, but utilize average vehicle noise emission levels based on acoustic measurement data taken some 7 to 9 years ago.

It should be noted that the values given in Tables 6-5 and 6-6 are based upon soft site conditions and do not take into account the effects of any noise barriers, topography or final roadway grades that may affect ambient noise levels. Soft site conditions were assumed due to the open space, slope and landscaped areas anticipated in this area. These are appropriate assumptions for this level of noise analysis. Final noise studies should be prepared at the time future noise sensitive development occurs. These studies should take into account the effect of noise barriers and actual topography.

Long-Term Operational Noise Impacts

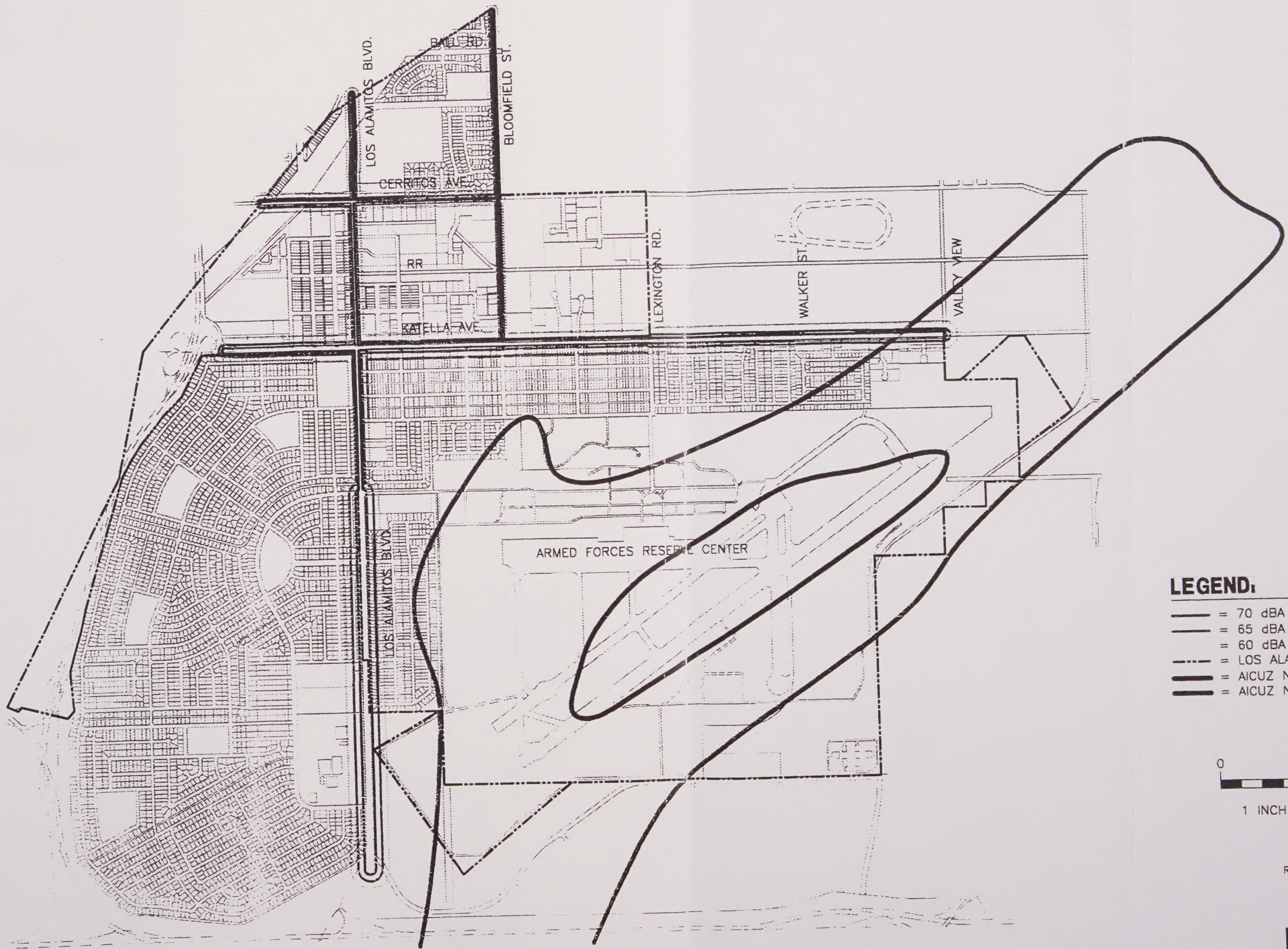
Future development in and around the City of Los Alamitos will generate additional traffic, and as a result may alter noise levels in surrounding areas. To assess the future impacts on land uses adjacent to streets that will serve the community, the increases in roadway noise along these streets were determined. These roadways were modeled for future traffic conditions for Year 2020 conditions. The increase in noise levels for Buildout conditions is presented in Table 6-7.

This table indicates that future noise impacts increase from 0.4 dBA to 2.2 dBA over existing impacts. The results of the future noise modeling are presented in Tables 6-5 and 6-6 in terms of CNEL noise levels 100 feet from the roadway centerline and the distances to the 70 dBA CNEL, 65 dBA CNEL, and 60 dBA CNEL contours. The results are presented for soft site conditions. (Soft site represents a noise propagation rate that includes the effects of ground absorption for locations close to roadway level.) The values presented in Tables 6-5 and 6-6 are considered conservative, because they do not account for the effect of existing topography, noise barriers or intervening buildings that may alter the roadway noise levels.

Los Alamitos Armed Forces Reserve Center (AFRC)⁵

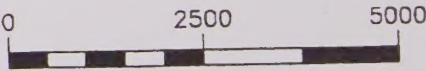
The need for coordinated planning between military air installations and the surrounding communities resulted in the initiation of the Air Installation Compatible Use Zone (AICUZ) Program by the Department of Defense. The purpose of the AICUZ program is to ensure compatible development in high noise areas, minimize public exposure the potential safety hazards associated with aircraft operations, and protect the operational capability of the air installation.

⁵ Office of the Adjutant General California National Guard. December 1993. Air Installation Compatible Use Zone (AICUZ) Study. Armed Forces Reserve Center Los Alamitos Army Airfield.



LEGEND:

- = 70 dBA CNEL CONTOUR BOUNDARY
- = 65 dBA CNEL CONTOUR BOUNDARY
- = 60 dBA CNEL CONTOUR BOUNDARY
- - - = LOS ALAMOS CITY BOUNDARY
- = AICUZ NOISE ZONE III >75 dBA
- = AICUZ NOISE ZONE II 65-75 dBA



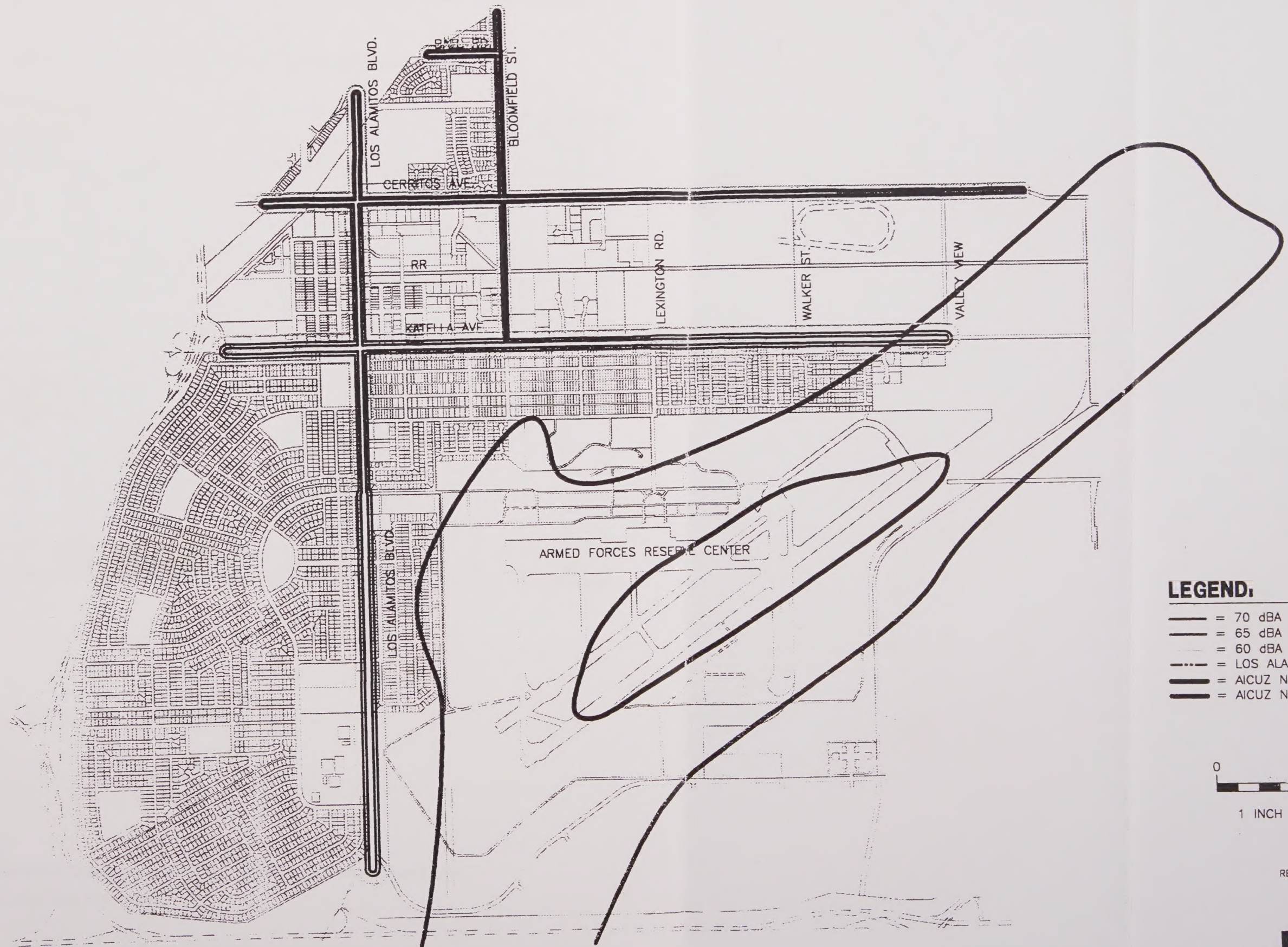
1 INCH = 2500 FEET

REVISION: 9/3/97

RKJK

ROBERT KAHN · JOHN KAHN & ASSOCIATES INC.

EXHIBIT F GENERAL PLAN BUILDOUT NOISE CONTOUR MAP



- LEGEND:**
- = 70 dBA CNEL CONTOUR BOUNDARY
 - = 65 dBA CNEL CONTOUR BOUNDARY
 - = 60 dBA CNEL CONTOUR BOUNDARY
 - - - = LOS ALAMITOS CITY BOUNDARY
 - = AICUZ NOISE ZONE III >75 dBA
 - = AICUZ NOISE ZONE II 65-75 dBA

0 2500 5000
1 INCH = 2500 FEET

REVISION: 9/3/97

RKJK
ROBERT KAHN - JOHN KAIN & ASSOCIATES INC.

TABLE 6-7

INCREASE IN NOISE LEVELS (dBA) FOR FUTURE YEAR 2020

ROAD	LOCATION NUMBER	SEGMENT	CNEL AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FT.)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
Ball Rd.	1	W/O Bloomfield St.	N/A	N/A	N/A	N/A
Cerritos Ave.	2	W/O Los Alamitos Blvd.	0.4	2	6	12
	3	W/O Bloomfield St.	1.3	8	17	37
	4	W/O Lexington Rd.	N/A	N/A	N/A	N/A
	5	W/O Walker St.	N/A	N/A	N/A	N/A
Katella Ave.	6	W/O Los Alamitos Blvd.	0.8	9	18	40
	7	W/O Bloomfield St.	0.6	6	13	28
	8	W/O Lexington Rd.	1.2	11	24	52
	9	W/O Walker St.	0.5	5	10	23
Los Alamitos Blvd.	10	N/O Cerritos Ave.	2.0	12	27	58
	11	N/O Katella Ave.	2.2	17	37	79
	12	N/O Farquhar Ave.	1.0	9	18	41
	13	S/O Bradbury Way	1.6	18	40	85
Bloomfield St.	14	N/O Cerritos Ave.	1.5	8	17	38
	15	N/O Katella Ave.	0.8	3	8	16

¹ Source: City of Los Alamitos Engineering & Traffic Survey for Speed Limits, January 1993.

N/A: Existing Traffic Count Data Unavailable

The concept of the AICUZ is to establish compatible land uses in areas around military airfields by identifying noise exposure contours and accident potential zones.

The Noise Control Act of 1972, which promotes an environment free of noise that jeopardizes the health and welfare of individuals, states that Federal agencies shall comply with Federal, State, and local noise requirements. Military weapons or equipment designed for combat are excluded from this act; however, the Office of the Judge Advocate General (1989) states that the Army should endeavor to comply with noise regulations unless to do so would conflict with its military mission.

The State of California Noise Planning in Land Use Act of 1972 requires noise contours to be generated for all airfields, including military. The California Airport Noise Standards of 1979 define how these noise contours are generated and what are considered compatible land uses for the noise environment. Although military airfields are not included in these standards, the AICUZ program closely follows them.

The Noise Zones for the AICUZ program are defined in Army Regulation 200-1 (1982) for areas containing housing, schools, medical facilities or other noise sensitive dwellings as:

- (a) Zone I - acceptable
- (b) Zone II - normally unacceptable
- (c) Zone III- unacceptable

These noise zones are based on specific A-weighted day-night levels (ADNL) similar to the CNEL criteria in decibels [dB(A)]. The ADNL is derived from the logarithmic average of noise episodes with a 10 dB(A) penalty added to nighttime levels (2200-0700 hours). The level of each Noise Zone is as follows:

- (a) Zone I - Less than 65 dB(A)
- (b) Zone II - 65 to 75 dB(A)
- (c) Zone III- Greater than 75 dB(A)

The AICUZ noise contours are shown on Exhibits E and F.

FINDINGS

The following findings have been determined for existing and future conditions for the City of Los Alamitos:

1. The City is impacted by a number of noise sources including roadways, and overflights from the Los Alamitos Armed Forces Reserve Center.
2. Aircraft noise levels generated from the existing military aircraft overflights from the Los Alamitos Army Airfield will have an impact on the City of Los Alamitos.
3. The existing railway located between Cerritos and Katella Avenues was abandoned by Southern Pacific rail line. No noise impacts are anticipated from the existing railroad.

4. Noise measurements were conducted at twelve (12) locations in the City of Los Alamitos. Leq (Equivalent Sound Level) noise levels (see Appendix "A" for Glossary of Acoustical Terms) ranged from 64.4 dBA CNEL to 78.0 dBA CNEL under current conditions.
5. Traffic noise dominates the existing noise environment throughout the City, resulting in ambient noise levels above 60 dBA CNEL at 100 feet from the centerline of the analyzed road sections. Future noise levels along these analyzed roadway sections will remain in excess of 60 dBA CNEL at 100 feet for Year 2020 conditions.
6. A comparison of existing roadway noise impacts was made with future roadway noise impacts for future Year 2020. This comparison indicates that all future roadway impacts increase from 0.4 dBA to 2.2 dBA over existing roadway noise levels.

CONCLUSIONS

A noise element background technical report has been completed for the City of Los Alamitos. This noise study includes noise monitoring of ambient conditions along roadways in the vicinity of the community, a review of noise measurements from previous noise studies, a review of local agency requirements and an analysis of existing and future Year 2020 roadway noise impacts. From a noise impact standpoint, future development throughout the City of Los Alamitos can occur through proper planning and design of noise mitigation measures.

APPENDIX A

GLOSSARY OF ACOUSTICAL TERMS

APPENDIX A**GLOSSARY OF ACOUSTICAL TERMS**

A-WEIGHTED SOUND LEVEL. The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the response of the human ear. A numerical method of rating human judgment of loudness.

AMBIENT NOISE LEVEL. The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five (5) decibels to sound levels in the evening from 7 p.m. to 10 p.m. and after addition of ten (10) decibels to sound levels in the night before 7 a.m. and after 10 p.m.

DECIBEL (dB). A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micro-pascals.

dB(A). A-weighted sound level (see definition above).

EQUIVALENT SOUND LEVEL (LEQ). The sound level corresponding to a steady noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level. The energy average noise level during the sample period.

L(n). The A-weighted sound level exceeded during a certain percentage of the sample time. For example, L10 in the sound level exceeded 10 percent of the sample time. Similarly L50, L90, L99 etc.

NOISE. Any unwanted sound or sound which is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. The State Noise Control Act defines noise as "...excessive undesirable sound...".

PERCENT NOISE LEVELS. See L(n).

SOUND LEVEL (NOISE LEVEL). The weighted sound pressure level obtained by use of a sound level meter having a standard frequency-filter for attenuating part of the sound spectrum.

SOUND LEVEL METER. An instrument, including a microphone, an amplifier, an output meter, and frequency weighting networks for the measurement and determination of noise and sound levels.

SINGLE EVENT NOISE EXPOSURE LEVEL (SENEL). The dB(A) level which, if it lasted for one second, would produce the same A-weighted sound energy as the actual event.

APPENDIX B

CITY OF LOS ALAMITOS NOISE ORDINANCE

17.40.010

Chapter 17.40

NOISE CONTROL

Sections:

- 17.40.010 Purpose.
- 17.40.020 Definitions.
- 17.40.030 Exemptions.
- 17.40.040 Noise level measurement criteria.
- 17.40.050 Designated noise zones.
- 17.40.060 Exterior noise standards.
- 17.40.070 Exterior noise levels prohibited.
- 17.40.080 Interior noise standards.
- 17.40.090 Interior levels of noise prohibited.
- 17.40.100 Schools, hospitals and churches—Special provisions.
- 17.40.110 Air conditioning and refrigeration—Special provisions.
- 17.40.120 Manner of enforcement.
- 17.40.130 Variance procedure.
- 17.40.140 Noise variance board.
- 17.40.150 Appeals.
- 17.40.160 Appeals—Notice of hearing.
- 17.40.170 Action of council.
- 17.40.180 Violations—Misdemeanor.

17.40.010 Purpose.

A. In order to control unnecessary, excessive and annoying sounds emanating from incorporated areas of the city, it is declared to be the policy of the city to prohibit such sounds generated from all sources as specified in this chapter.

B. It is determined that certain noise levels are detrimental to the public health, welfare and safety and contrary to public interest; therefore, the city council does ordain and declare that creating, maintaining, causing or allowing to create, maintain or cause any noise in a manner prohibited by, or not in conformity with the provisions of this chapter, is a public nuisance and shall be punishable as such. (Ord. 535 § 1 (part), 1990)

17.40.020 Definitions.

The following words, phrases and terms as used in this chapter shall have the meaning as indicated below:

“Ambient noise level” means the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

“Commercial property” means a parcel of real property which is developed and used either in part or in whole for commercial purposes including, but not limited to, retail and wholesale businesses and professional offices.

“Cumulative period” means an additive period of time composed of individual time segments which may be continuous or interrupted.

“Decibel (dB)” means a unit which denotes the ratio between two quantities which are proportional to power: the number of decibels corresponding to the ratio of two amounts of power is ten times the logarithm to the base ten of this ratio.

“Emergency machinery, vehicle or work” means any machinery, vehicle or work used, employed or performed in an effort to protect, provide or restore safe conditions in the community for the citizenry, or work by private or public utilities when restoring utility service.

“Fixed noise source” means a stationary device which creates sounds while fixed or motionless, including but not limited to, industrial and commercial machinery and equipment, pumps, fans, compressors, generators, air conditioners and refrigeration equipment.

“Grading” means any excavating or filling of earth material or any combination thereof, conducted to prepare the site for construction or the placement of the improvements thereon.

“Impact noise” means the noise produced by the collision of one mass in motion with a second mass which may be either in motion or at rest.

“Industrial property” means a parcel of real property which is developed and used either in part or

17.40.020

in whole for manufacturing purposes including research and development uses.

"Mobile noise source" means any source other than a fixed noise source.

"Noise level" means the "A" weighted sound pressure level in decibels obtained by using a sound level meter at slow response with a reference pressure of twenty (20) micropascals (micronewtons per square meter). The unit of measurement shall be designated as dB(A).

"Person" means a person, firm, association, co-partnership, joint venture, corporation or any entity, public or private in nature.

"Predominant tone noise" means a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

"Residential property" means a parcel of real property which is developed and used either in part or in whole for residential purposes, other than transient uses such as hotels or motels.

"Sound pressure level" means a sound, in decibels, twenty (20) times the logarithm to the base ten of the ratio of the pressure of the sound to a reference pressure, which reference pressure shall be explicitly stated. (Ord. 535 § 1 (part), 1990)

17.40.030 Exemptions.

The following activities shall be exempted from the provisions of this chapter.

A. School bands, school athletic and school entertainment events, provided such events are conducted on school property or authorized by special permit from the city;

B. Activities otherwise lawfully conducted in public parks, public playgrounds and public or private school grounds;

C. Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle or work;

D. Noise sources associated with construction, repair, remodeling or grading of any real property; provided a permit has been obtained from the city; and provided such activities do not take place between the hours of eight p.m. and seven a.m. on

weekdays, including Saturday, or at any time on Sunday or a federal holiday;

E. All mechanical devices, apparatus or equipment which are utilized for the protection or harvest of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions;

F. Mobile noise sources associated with agricultural operations provided such operations do not take place between the hours of eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday;

G. Mobile noise sources associated with agricultural pest control through pesticide application; provided, that the application is made in accordance with restricted material permits issued by or regulations enforced by the agricultural commissioner;

H. Noise sources associated with the maintenance of real property, provided such activities take place between the hours of eight a.m. and eight p.m. on any day except Sunday or between the hours of nine a.m. and six p.m. on Sunday or a federal holiday;

I. Any activity or equipment to the extent that design regulation thereof has been preempted by state or federal laws. (Ord. 535 § 1 (part), 1990)

17.40.040 Noise level measurement criteria.

Any noise level measurements made pursuant to the provisions of this chapter shall be performed using a sound level meter as defined in this chapter. The location selected for measuring exterior noise levels shall be at any point on the property line of the offender or anywhere on the affected property. Interior noise measurements shall be made within the affected unit. The measurement shall be made at a point in the affected unit at least four feet from the wall, ceiling or floor nearest the noise source. All noise level measurements shall be performed in accordance with procedural rules and regulations of the Orange County health department. (Ord. 535 § 1 (part), 1990)

17.40.050

17.40.050 Designated noise zones.

The properties hereinafter described, whether within or without the city, are assigned to the following noise zones:

- A. Noise Zone 1: all residential properties;
- B. Noise Zone 2: all professional office and public institutional properties;
- C. Noise Zone 3: all commercial properties with the exception of professional office properties; and
- D. Noise Zone 4: all industrial properties. (Ord. 535 § 1 (part), 1990)

17.40.060 Exterior noise standards.

The following noise standards, unless otherwise specifically indicated, shall apply to all residential property within a designated noise zone:

EXTERIOR NOISE STANDARDS

Noise Zone	Noise Level	Time Period
1	55 dB(A)	7 a.m.—10 p.m.
	50 dB(A)	10 p.m.—7 a.m.
2	55 dB(A)	anytime
3	60 dB(A)	anytime
4	70 dB(A)	anytime

(Ord. 535 § 1 (part), 1990)

17.40.070 Exterior noise levels prohibited.

It is unlawful for any person at any location within the incorporated area of the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any residential, public institutional, professional, commercial or industrial property, either within or without the city, to exceed the applicable noise standard:

- A. For a cumulative period of more than thirty (30) minutes in any hour;
- B. Plus five dB(A) for a cumulative period of more than fifteen (15) minutes in any hour;
- C. Plus ten dB(A) for a cumulative period of more than five minutes in any hour;

D. Plus fifteen (15) dB(A) for a cumulative period of more than one minute in any hour; or

E. Plus twenty (20) dB(A) for any period of time.

In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to the category shall be increased to reflect the ambient noise level. In the event the ambient noise level exceeds the fifth noise limit category, the maximum allowable noise level under that category shall be increased to reflect the maximum ambient noise level. (Ord. 535 § 1 (part), 1990)

17.40.080 Interior noise standards.

The following noise standards, unless otherwise specifically indicated, shall apply to all real property within a designated noise zone:

INTERIOR NOISE STANDARDS

Noise Zone	Noise Level	Time Period
1	55 dB(A)	7 a.m.—10 p.m.
	45 dB(A)	10 p.m.—7 a.m.
2, 3, 4	55 dB(A)	anytime

(Ord. 535 § 1 (part), 1990)

17.40.090 Interior levels of noise prohibited.

A. It is unlawful for any person at any location within the incorporated area of the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured within any other structure on any residential, public institutional, commercial or industrial property to exceed:

- 1. The noise standard for a cumulative period of more than five minutes in any hour;
- 2. The noise standard plus five dB(A) for a cumulative period of more than one minute in any hour; or
- 3. The noise standard plus ten dB(A) for any period of time.

17.40.090

In the event the ambient noise level exceeds either of the first two noise limit categories above, the cumulative period applicable to the category shall be increased to reflect the ambient noise level. In the event the ambient noise level exceeds the third noise limit category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

C. Each of the noise limits specified above shall be reduced by five dB(A) for impact or predominant tone noises, or for noises consisting of speech or music.

D. In the event that the noise source and the affected property are within different noise zones, the noise standards of the affected property shall apply. (Ord. 535 § 1 (part), 1990)

17.40.100 Schools, hospitals and churches— Special provisions.

It is unlawful for any person to create any noise which causes the noise level at any school, hospital or church while same is in use, to exceed the noise limits specified for exterior noise standards in this chapter, or which noise level unreasonably interferes with the use of such institutions or which unreasonably disturbs or annoys patients in the hospital, provided conspicuous signs are displayed in three separate locations within one-tenth of a mile of the institution indicating the presence of a school, hospital or church. (Ord. 535 § 1 (part), 1990)

17.40.110 Air conditioning and refrigeration—Special provisions.

During a one-year period following the effective date of this chapter, the noise level standards specified in this chapter shall be increased by five dB(A) where the alleged noise source is an air-conditioning apparatus or refrigeration system, which was installed prior to the effective date of this chapter. (Ord. 535 § 1 (part), 1990)

17.40.120 Manner of enforcement.

A. The orange county health officer and his duly authorized representatives are directed to enforce the provisions of this title. The Orange County health

officer and his duly authorized representatives are authorized pursuant to Penal Code Section 836.5, to arrest any person without a warrant when they have reasonable cause to believe that such person has committed a misdemeanor in their presence.

B. No person shall interfere with, oppose or resist any authorized person charged with enforcement of this title while any person is engaged in the performance of his/her duty. (Ord. 535 § 1 (part), 1990)

17.40.130 Variance procedure.

A. The owner or operator of a noise source which violates any of the provisions of this chapter may file an application with the health officer for a variance from the provisions thereof wherein the owner or operator shall set forth all actions taken to comply with the provisions, the reasons why immediate compliance cannot be achieved, a proposed method of achieving compliance and a proposed time schedule for its accomplishment. The application shall be accompanied by a fee in the amount of seventy-five dollars (\$75.00).

B. A separate application shall be filed for each noise source; provided, however, that several mobile sources under common ownership, or several fixed sources on a single property may be combined into one application. Upon receipt of the application and fee, the health officer shall refer it with his recommendation thereon in accordance with the provisions of this chapter.

C. An applicant for a variance shall remain subject to prosecution under the terms of this title until a variance is granted. (Ord. 535 § 1 (part), 1990)

17.40.140 Noise variance board.

A. The noise variance board shall evaluate all applications for variance from the requirements of this title and may grant variances with respect to time for compliance, subject to such terms, conditions and requirements as it may deem reasonable to achieve maximum compliance with the provisions of this title. Such terms, conditions and requirements may include, but shall not be limited to, limitations

17.40.140

on noise levels and operating hours. Each such variance shall set forth in detail the approved method of achieving maximum compliance and a time schedule for its accomplishment.

B. In its determinations the board shall consider the magnitude of nuisance caused by the offensive noise; the uses of property within the area of impingement by the noise; the time factors related to study, design, financing and construction of remedial work; the economic factors related to age and useful life of equipment; and the general public interest and welfare. Any variance granted by the board shall be by resolution and shall be transmitted to the health officer for enforcement. Any violation of the terms of the variance shall be unlawful.

C. Members of the variance board shall be appointed by, and shall serve at the pleasure of the Orange County board of supervisors. The variance board shall adopt reasonable rules and regulations for its own procedures in carrying out its functions under the provisions of this title.

D. Three members shall constitute a quorum and at least three affirmative votes shall be required in support of any action.

E. The health officer, or his appointed representative, shall be a nonvoting ex officio member of the variance board, and shall act as secretary of the board.

F. Meetings of the noise variance board shall be held at the call of the secretary and at such times and locations as the board shall determine. All such meetings shall be open to the public. (Ord. 535 § 1 (part), 1990)

17.40.150 Appeals.

Within fifteen (15) days following notice to the city of the decision of the variance board on an application, the applicant, the health officer or any member of the city council, may appeal the decision to the city council by filing a notice of appeal with the secretary of the variance board. In the case of an appeal by the applicant for a variance, the notice of appeal shall be accompanied by a fee to be computed by the secretary on the basis of the estimated

cost of preparing the materials required to be forwarded to the city council as discussed hereafter. If the actual cost of such preparation differs from the estimated cost, the applicant shall pay any difference to the secretary and the secretary shall pay the amount of any excess to the applicant. (Ord. 535 § 1 (part), 1990)

17.40.160 Appeals—Notice of hearing.

Within fifteen (15) days following the receipt of a notice of appeal and the appeal fee, the secretary of the variance board shall forward to the city council copies of the application for variance; the recommendation of the health officer; the notice of appeal; all evidence concerning the application received by the variance board and its decision thereon. In addition, any person may file with the city council written arguments supporting or attacking the decision and the city council may, in its discretion, hear oral arguments thereon. The city clerk shall mail to the applicant a notice of the date set for hearing of the appeal. The notice shall be mailed at least ten (10) days prior to the hearing date. (Ord. 535 § 1 (part), 1990)

17.40.170 Action of council.

A. Within sixty (60) days following its receipt of the notice of the appeal, the city council shall either affirm, modify or review the decision of the variance board at a duly noticed public hearing. Such decision shall be based upon the city council's evaluation of the matters submitted to it in light of the powers conferred on the variance board and the factors to be considered as set out in this chapter.

B. As part of its decision, the council may direct the variance board to conduct further proceedings on the application. Failure of the city council to affirm, modify or reverse the decision of the variance board within the sixty (60) day period shall constitute affirmation of the board's decision. (Ord. 535 § 1 (part), 1990)

17.40.180

17.40.180 Violations—Misdemeanor.

Any person violating any of the provisions of this chapter shall be deemed guilty of a misdemeanor. Each day such violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such. The provisions of this chapter shall not be construed as permitting conduct not prescribed herein and shall not affect the enforceability of any other applicable provisions of law. (Ord. 535 § 1 (part), 1990)

Chapter 17.42**HOME OCCUPATIONS****Sections:**

17.42.010	Permit required.
17.42.020	Primary home occupations.
17.42.030	Secondary home occupations.
17.42.040	Criteria.
17.42.050	Permits—Applications.
17.42.060	Permits—Issuance.
17.42.070	Permits—Appeals.
17.42.080	Permits—Termination.

17.42.010 Permit required.

No home occupation shall be established, nor shall any premises be used for a home occupation, except as provided in this chapter. (Ord. 535 § 1 (part), 1990)

17.42.020 Primary home occupations.

The following primary home occupations shall be permitted subject to obtaining a home occupation permit:

A. Receiving telephone offices for the following contractors:

1. General;
2. Electric;
3. Plumbing;
4. Subcontractor and speciality contractor, and
5. Grading, trenching, excavating, paving, street and sewer contractors; provided, however, the parking of a commercial vehicle shall be limited to one vehicle with an unladen weight of four thousand five hundred (4,500) pounds and no equipment;

B. Peddling or soliciting orders for paintings, pictures, photographs, books, magazines, publications, periodicals, wearing apparel, shoes, dry goods, notions, cosmetics, jewelry or any others which may be of the same general character as those set forth in this subsection. (Ord. 535 § 1 (part), 1990)

APPENDIX C

CNEL COMPUTER PRINTOUTS

Form - 2007-2012 Planning Noise Construction Noise - 2007-2012

EXISTING

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-001
ROADWAY:	CERRITOS AVE. - LOC 2	DATE:	29-Aug-97
LOCATION:	W/O LOS ALAMITOS BLVD. - EXISTING	BY:	B. LAWSON

ADT	25,100	PK HR VOL	2,510
SPEED	40 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	52 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	96.6
DIST WALL	0 FT	MED TRUCK SLE DIST	96.6
DIST W/OB	100 FT	HVY TRUCK SLE DIST	96.6
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES =	2.00 FT
MEDIUM TRUCKS =	4.00 FT
HEAVY TRUCKS =	8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	64.3	62.4	60.7	54.6	63.8
MEDIUM TRUCKS	56.0	54.5	48.2	46.6	55.3
HEAVY TRUCKS	56.9	55.5	46.5	47.7	56.2

VEHICULAR NOISE	65.6	63.8	61.1	55.9	65.0
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
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DISTANCE TO LEQ DAY (FT)	38	83	179	283
DISTANCE TO CNEL (FT)	47	100	216	342

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-00
 ROADWAY: CERRITOS AVE. - LOC 3 DATE: 29-Aug-97
 LOCATION: W/O BLOOMFIELD ST. - EXISTING BY: B. LAWSON

ADT 23,900 PK HR VOL 2,390
 SPEED 35 MPH
 PK HR 10 %
 DIST CTL 100 FT
 DIST N/F 52 FT (M=76,P=52,S=36) AUTO SLE DISTANCE 96.6
 DIST WALL 0 FT MED TRUCK SLE DIST 96.6
 DIST W/OB 100 FT HVY TRUCK SLE DIST 96.6
 HTH WALL 0.0 FT
 HTH OBS 5 FT

ROADWAY VIEW:

LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0

(0=WALL,1=BERM)

ELEVATIONS:

PAD 0 FT
 ROAD 0 FT

AUTOMOBILES = 2.00 FT
 MEDIUM TRUCKS = 4.00 FT
 HEAVY TRUCKS = 8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	62.4	60.5	58.8	52.7	61.9
MEDIUM TRUCKS	54.9	53.4	47.1	45.5	54.2
HEAVY TRUCKS	56.2	54.8	45.7	47.0	55.5

	63.9	62.2	59.3	54.3	63.4
VEHICULAR NOISE					

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	30	65	140	221
DISTANCE TO CNEL (FT)	36	78	168	266

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-00
 ROADWAY: KATELLA AVE. - LOC 6 DATE: 29-Aug-97
 LOCATION: W/O LOS ALAMITOS BLVD. - EXISTING BY: B. LAWSON

ADT 57,900 PK HR VOL 5,790
 SPEED 35 MPH
 PK HR 10 %
 DIST CTL 100 FT
 DIST N/F 76 FT (M=76, P=52, S=36) AUTO SLE DISTANCE 92.5
 DIST WALL 0 FT MED TRUCK SLE DIST 92.5
 DIST W/OB 100 FT HVY TRUCK SLE DIST 92.5
 HTH WALL 0.0 FT
 HTH OBS 5 FT

ROADWAY VIEW:

LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD 0 FT
 ROAD 0 FT

AUTOMOBILES = 2.00 FT
 MEDIUM TRUCKS = 4.00 FT
 HEAVY TRUCKS = 8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	66.6	64.7	62.9	56.8	66.1
MEDIUM TRUCKS	59.0	57.5	51.2	49.6	58.3
HEAVY TRUCKS	60.3	58.9	49.8	51.1	59.6
VEHICULAR NOISE	68.1	66.3	63.4	58.5	67.5

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	57	122	263	417
DISTANCE TO CNEL (FT)	68	147	316	502

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-00
 ROADWAY: KATELLA AVE. - LOC 7 DATE: 29-Aug-97
 LOCATION: W/O BLOOMFIELD ST. - EXISTING BY: B. LAWSON

ADT 50,100 PK HR VOL 5,010
 SPEED 35 MPH
 PK HR 10 %
 DIST CTL 100 FT
 DIST N/F 76 FT (M=76, P=52, S=36) AUTO SLE DISTANCE 92.5
 DIST WALL 0 FT MED TRUCK SLE DIST 92.5
 DIST W/OB 100 FT HVY TRUCK SLE DIST 92.5
 HTH WALL 0.0 FT
 HTH OBS 5 FT

ROADWAY VIEW:

LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD 0 FT
 ROAD 0 FT

AUTOMOBILES = 2.00 FT
 MEDIUM TRUCKS = 4.00 FT
 HEAVY TRUCKS = 8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	65.9	64.0	62.3	56.2	65.4
MEDIUM TRUCKS	58.4	56.9	50.5	49.0	57.7
HEAVY TRUCKS	59.7	58.3	49.2	50.5	59.0

VEHICULAR NOISE	67.4	65.7	62.7	57.8	66.9
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	51	111	239	379
DISTANCE TO CNEL (FT)	62	133	287	455

FHWA -- RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-00
 ROADWAY: KATELLA AVE. - LOC 8 DATE: 29-Aug-97
 LOCATION: W/O LEXINGTON DENNY RD. - EXISTING BY: B. LAWSON

ADT 42,900 PK HR VOL 4,290
 SPEED 35 MPH
 PK HR 10 %
 DIST CTL 100 FT
 DIST N/F 76 FT (M=76,P=52,S=36) AUTO SLE DISTANCE 92.5
 DIST WALL 0 FT MED TRUCK SLE DIST 92.5
 DIST W/OB 100 FT HVY TRUCK SLE DIST 92.5
 HTH WALL 0.0 FT
 HTH OBS 5 FT

ROADWAY VIEW:
 LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS: (HARD SITE=10, SOFT SITE=15)
 AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0 (0=WALL, 1=BERM)

ELEVATIONS:
 PAD 0 FT AUTOMOBILES = 2.00 FT
 ROAD 0 FT MEDIUM TRUCKS = 4.00 FT
 HEAVY TRUCKS = 8.00 FT
 GRADE: 0 % GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	65.3	63.4	61.6	55.5	64.8
MEDIUM TRUCKS	57.7	56.2	49.9	48.3	57.0
HEAVY TRUCKS	59.0	57.6	48.5	49.8	58.3
VEHICULAR NOISE	66.8	65.0	62.1	57.2	66.2

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	46	100	215	341
DISTANCE TO CNEL (FT)	56	120	259	411

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	KATELLA AVE. - LOC 9	DATE:	29-Aug-97
LOCATION:	W/O WALKER ST. - EXISTING	BY:	B. LAWSON

ADT	42,900	PK HR VOL	4,290
SPEED	40 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	76 FT (M=76, P=52, S=36)	AUTO SLE DISTANCE	92.5
DIST WALL	0 FT	MED TRUCK SLE DIST	92.5
DIST W/OB	100 FT	HVY TRUCK SLE DIST	92.5
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES =	2.00 FT
MEDIUM TRUCKS =	4.00 FT
HEAVY TRUCKS =	8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	66.9	65.0	63.3	57.2	66.4
MEDIUM TRUCKS	58.6	57.1	50.8	49.2	57.9
HEAVY TRUCKS	59.5	58.1	49.1	50.3	58.8

VEHICULAR NOISE	68.2	66.4	63.7	58.6	67.6
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	57	124	267	422
DISTANCE TO CNEL (FT)	69	150	322	511

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-001
 ROADWAY: LOS ALAMITOS BLVD. - LOC 10 DATE: 29-Aug-97
 LOCATION: N/O CERRITOS AVE. - EXISTING BY: B. LAWSON

ADT	21,200		PK HR VOL	2,120
SPEED	35 MPH			
PK HR	10 %			
DIST CTL	100 FT			
DIST N/F	76 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE		92.5
DIST WALL	0 FT	MED TRUCK SLE DIST		92.5
DIST W/OB	100 FT	HVY TRUCK SLE DIST		92.5
HTH WALL	0.0 FT			
HTH OBS	5 FT			

ROADWAY VIEW:

LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD 0 FT
 ROAD 0 FT

AUTOMOBILES = 2.00 FT
 MEDIUM TRUCKS = 4.00 FT
 HEAVY TRUCKS = 8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	62.2	60.3	58.5	52.5	61.7
MEDIUM TRUCKS	54.7	53.2	46.8	45.3	54.0
HEAVY TRUCKS	55.9	54.5	45.5	46.7	55.2

VEHICULAR NOISE

63.7

61.9

59.0

54.1

63.1

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	29	63	135	213
DISTANCE TO CNEL (FT)	35	75	162	257

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-00
 ROADWAY: LOS ALAMITOS BLVD. - LOC 11 DATE: 29-Aug-97
 LOCATION: N/O KATELLA AVE. - EXISTING BY: B. LAWSON

ADT 29,000 PK HR VOL 2,900
 SPEED 35 MPH
 PK HR 10 %
 DIST CTL 100 FT
 DIST N/F 76 FT (M=76, P=52, S=36) AUTO SLE DISTANCE 92.5
 DIST WALL 0 FT MED TRUCK SLE DIST 92.5
 DIST W/OB 100 FT HVY TRUCK SLE DIST 92.5
 HTH WALL 0.0 FT
 HTH OBS 5 FT

ROADWAY VIEW:

LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD 0 FT
 ROAD 0 FT

AUTOMOBILES = 2.00 FT
 MEDIUM TRUCKS = 4.00 FT
 HEAVY TRUCKS = 8.00 FT

GRADE: 0 % GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	63.6	61.7	59.9	53.8	63.1
MEDIUM TRUCKS	56.0	54.5	48.2	46.6	55.3
HEAVY TRUCKS	57.3	55.9	46.8	48.1	56.6

VEHICULAR NOISE	65.1	63.3	60.4	55.5	64.5
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	36	77	166	263
DISTANCE TO CNEL (FT)	43	93	200	316

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	LOS ALAMITOS BLVD. - LOC 12	DATE:	29-Aug-97
LOCATION:	N/O FARQUHAR AVE. - EXISTING	BY:	B. LAWSON

ADT	37,800	PK HR VOL	3,780
SPEED	35 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	76 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	92.5
DIST WALL	0 FT	MED TRUCK SLE DIST	92.5
DIST W/OB	100 FT	HVY TRUCK SLE DIST	92.5
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES =	2.00 FT
MEDIUM TRUCKS =	4.00 FT
HEAVY TRUCKS =	8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	64.7	62.8	61.0	55.0	64.2
MEDIUM TRUCKS	57.2	55.7	49.3	47.8	56.5
HEAVY TRUCKS	58.5	57.0	48.0	49.2	57.7

VEHICULAR NOISE	66.2	64.5	61.5	56.6	65.7
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	43	92	198	314
DISTANCE TO CNEL (FT)	51	111	238	377

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-00
 ROADWAY: LOS ALAMITOS BLVD. - LOC 13 DATE: 29-Aug-97
 LOCATION: S/O BRADBURY WAY - EXISTING BY: B. LAWSON

ADT 37,800 PK HR VOL 3,780
 SPEED 40 MPH
 PK HR 10 %
 DIST CTL 100 FT
 DIST N/F 76 FT (M=76, P=52, S=36) AUTO SLE DISTANCE 92.5
 DIST WALL 0 FT MED TRUCK SLE DIST 92.5
 DIST W/OB 100 FT HVY TRUCK SLE DIST 92.5
 HTH WALL 0.0 FT
 HTH OBS 5 FT

ROADWAY VIEW:

LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD 0 FT
 ROAD 0 FT

AUTOMOBILES = 2.00 FT
 MEDIUM TRUCKS = 4.00 FT
 HEAVY TRUCKS = 8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	66.4	64.5	62.7	56.7	65.9
MEDIUM TRUCKS	58.1	56.6	50.2	48.7	57.4
HEAVY TRUCKS	59.0	57.6	48.5	49.8	58.3
VEHICULAR NOISE	67.6	65.8	63.1	58.0	67.1

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	53	114	245	388
DISTANCE TO CNEL (FT)	64	137	296	469

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-001
 ROADWAY: BLOOMFIELD ST. - LOC 14 DATE: 29-Aug-97
 LOCATION: N/O CERRITOS AVE. - EXISTING BY: B. LAWSON

ADT	13,700	PK HR VOL	1,370
SPEED	40 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	36 FT (M=76, P=52, S=36)	AUTO SLE DISTANCE	98.4
DIST WALL	0 FT	MED TRUCK SLE DIST	98.4
DIST W/OB	100 FT	HVY TRUCK SLE DIST	98.4
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT	AUTOMOBILES =	2.00 FT
ROAD	0 FT	MEDIUM TRUCKS =	4.00 FT
		HEAVY TRUCKS =	8.00 FT
GRADE:	0 %	GRADE ADJUSTM	0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.974
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	61.6	59.7	57.9	51.8	61.1
MEDIUM TRUCKS	53.3	51.8	45.4	43.9	52.6
HEAVY TRUCKS	54.2	52.8	43.7	45.0	53.5
VEHICULAR NOISE	62.8	61.0	58.3	53.2	62.3

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	25	54	117	186
DISTANCE TO CNEL (FT)	30	66	142	224

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	BLOOMFIELD ST. - LOC 15	DATE:	29-Aug-97
LOCATION:	N/O KATELLA AVE. - EXISTING	BY:	B. LAWSON

ADT	16,300	PK HR VOL	1,630
SPEED	35 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	36 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	98.4
DIST WALL	0 FT	MED TRUCK SLE DIST	98.4
DIST W/OB	100 FT	HVY TRUCK SLE DIST	98.4
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES =	2.00 FT
MEDIUM TRUCKS =	4.00 FT
HEAVY TRUCKS =	8.00 FT

GRADE:	0 %
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GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	60.7	58.8	57.0	50.9	60.2
MEDIUM TRUCKS	53.1	51.6	45.3	43.7	52.4
HEAVY TRUCKS	54.4	53.0	43.9	45.2	53.7

VEHICULAR NOISE	62.2	60.4	57.5	52.6	61.6
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	23	49	106	168
DISTANCE TO CNEL (FT)	28	59	128	203

BUILDOUT

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	BALL RD. - LOC 1	DATE:	29-Aug-97
LOCATION:	W/O BLOOMFIELD ST. - FUTURE	BY:	B. LAWSON

ADT	23,100	PK HR VOL	2,310
SPEED	40 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	52 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	96.6
DIST WALL	0 FT	MED TRUCK SLE DIST	96.6
DIST W/OB	100 FT	HVY TRUCK SLE DIST	96.6
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES =	2.00 FT
MEDIUM TRUCKS =	4.00 FT
HEAVY TRUCKS =	8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	64.0	62.1	60.3	54.2	63.5
MEDIUM TRUCKS	55.7	54.2	47.8	46.3	55.0
HEAVY TRUCKS	56.6	55.1	46.1	47.4	55.8

VEHICULAR NOISE	65.2	63.4	60.7	55.6	64.7
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	36	78	169	268
DISTANCE TO CNEL (FT)	44	95	204	324

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-00
 ROADWAY: CERRITOS AVE. - LOC 2 DATE: 29-Aug-97
 LOCATION: W/O LOS ALAMITOS BLVD. - FUTURE BY: B. LAWSON

ADT 27,200 PK HR VOL 2,720
 SPEED 40 MPH
 PK HR 10 %
 DIST CTL 100 FT
 DIST N/F 52 FT (M=76, P=52, S=36) AUTO SLE DISTANCE 96.6
 DIST WALL 0 FT MED TRUCK SLE DIST 96.6
 DIST W/OB 100 FT HVY TRUCK SLE DIST 96.6
 HTH WALL 0.0 FT
 HTH OBS 5 FT

ROADWAY VIEW:

LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD 0 FT
 ROAD 0 FT

AUTOMOBILES = 2.00 FT
 MEDIUM TRUCKS = 4.00 FT
 HEAVY TRUCKS = 8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	64.7	62.8	61.0	54.9	64.2
MEDIUM TRUCKS	56.4	54.9	48.5	47.0	55.7
HEAVY TRUCKS	57.3	55.9	46.8	48.1	56.6

VEHICULAR NOISE	65.9	64.1	61.4	56.3	65.4
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	41	87	188	299
DISTANCE TO CNEL (FT)	49	106	228	361

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-00
 ROADWAY: CERRITOS AVE. - LOC 3 DATE: 29-Aug-97
 LOCATION: W/O BLOOMFIELD ST. - FUTURE BY: B. LAWSON

ADT 32,100 PK HR VOL 3,210
 SPEED 35 MPH
 PK HR 10 %
 DIST CTL 100 FT
 DIST N/F 52 FT (M=76, P=52, S=36) AUTO SLE DISTANCE 96.6
 DIST WALL 0 FT MED TRUCK SLE DIST 96.6
 DIST W/OB 100 FT HVY TRUCK SLE DIST 96.6
 HTH WALL 0.0 FT
 HTH OBS 5 FT

ROADWAY VIEW:

LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD 0 FT AUTOMOBILES = 2.00 FT
 ROAD 0 FT MEDIUM TRUCKS = 4.00 FT
 HEAVY TRUCKS = 8.00 FT
 GRADE: 0 % GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	63.7	61.8	60.1	54.0	63.2
MEDIUM TRUCKS	56.2	54.7	48.3	46.8	55.5
HEAVY TRUCKS	57.5	56.0	47.0	48.3	56.7

	70	65	60	57
VEHICULAR NOISE	65.2	63.5	60.5	55.6

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	37	79	170	270
DISTANCE TO CNEL (FT)	44	95	205	324

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-001
ROADWAY:	CERRITOS AVE. - LOC 4	DATE:	29-Aug-97
LOCATION:	W/O LEXINGTON RD. - FUTURE	BY:	B. LAWSON

ADT	28,400	PK HR VOL	2,840
SPEED	35 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	52 FT (M=76, P=52, S=36)	AUTO SLE DISTANCE	96.6
DIST WALL	0 FT	MED TRUCK SLE DIST	96.6
DIST W/OB	100 FT	HVY TRUCK SLE DIST	96.6
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT	AUTOMOBILES =	2.00 FT
ROAD	0 FT	MEDIUM TRUCKS =	4.00 FT
		HEAVY TRUCKS =	8.00 FT
GRADE:	0 %	GRADE ADJUSTM	0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	63.2	61.3	59.5	53.5	62.7
MEDIUM TRUCKS	55.7	54.2	47.8	46.3	55.0
HEAVY TRUCKS	56.9	55.5	46.5	47.7	56.2

VEHICULAR NOISE	64.7	62.9	60.0	55.1	64.1
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	34	73	157	248
DISTANCE TO CNEL (FT)	41	88	189	299

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	CERRITOS AVE. - LOC 5	DATE:	29-Aug-97
LOCATION:	W/O WALKER ST. - FUTURE	BY:	B. LAWSON

ADT	26,300	PK HR VOL	2,630
SPEED	35 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	52 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	96.6
DIST WALL	0 FT	MED TRUCK SLE DIST	96.6
DIST W/OB	100 FT	HVY TRUCK SLE DIST	96.6
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES =	2.00 FT
MEDIUM TRUCKS =	4.00 FT
HEAVY TRUCKS =	8.00 FT

GRADE:	0 %	GRADE ADJUSTM	0.0 DB TO HEAVY TRUCKS
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VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	62.9	61.0	59.2	53.1	62.4
MEDIUM TRUCKS	55.3	53.8	47.5	45.9	54.6
HEAVY TRUCKS	56.6	55.2	46.1	47.4	55.9

VEHICULAR NOISE	64.4	62.6	59.7	54.8	63.8
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	32	69	149	236
DISTANCE TO CNEL (FT)	39	83	179	284

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-0C
 ROADWAY: KATELLA AVE. - LOC 6 DATE: 29-Aug-97
 LOCATION: W/O LOS ALAMITOS BLVD. - FUTURE BY: B. LAWSON

ADT 69,000 PK HR VOL 6,900
 SPEED 35 MPH
 PK HR 10 %
 DIST CTL 100 FT
 DIST N/F 76 FT (M=76,P=52,S=36) AUTO SLE DISTANCE 92.5
 DIST WALL 0 FT MED TRUCK SLE DIST 92.5
 DIST W/OB 100 FT HVY TRUCK SLE DIST 92.5
 HTH WALL 0.0 FT
 HTH OBS 5 FT

ROADWAY VIEW:

LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD 0 FT
 ROAD 0 FT

AUTOMOBILES = 2.00 FT
 MEDIUM TRUCKS = 4.00 FT
 HEAVY TRUCKS = 8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	67.3	65.4	63.7	57.6	66.8
MEDIUM TRUCKS	59.8	58.3	51.9	50.4	59.1
HEAVY TRUCKS	61.1	59.6	50.6	51.9	60.3

VEHICULAR NOISE

68.8

67.1

64.1

59.2

68.3

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
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DISTANCE TO LEQ DAY (FT)	64	137	296	469
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DISTANCE TO CNEL (FT)	77	165	356	564
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FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT: LOS ALAMITOS NOISE ELEMENT TECH. STUDY JN: 639-96-00
 ROADWAY: KATELLA AVE. - LOC 7 DATE: 29-Aug-97
 LOCATION: W/O BLOOMFIELD ST. - FUTURE BY: B. LAWSON

ADT 57,600 PK HR VOL 5,760
 SPEED 35 MPH
 PK HR 10 %
 DIST CTL 100 FT
 DIST N/F 76 FT (M=76,P=52,S=36) AUTO SLE DISTANCE 92.5
 DIST WALL 0 FT MED TRUCK SLE DIST 92.5
 DIST W/OB 100 FT HVY TRUCK SLE DIST 92.5
 HTH WALL 0.0 FT
 HTH OBS 5 FT

ROADWAY VIEW:

LF ANGLE -90 DGR
 RT ANGLE 90 DGR
 DF ANGLE 180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE 15
 MED TRUCKS 15
 HVY TRUCKS 15
 BARRIER 0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD 0 FT
 ROAD 0 FT

AUTOMOBILES = 2.00 FT
 MEDIUM TRUCKS = 4.00 FT
 HEAVY TRUCKS = 8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	66.5	64.6	62.9	56.8	66.0
MEDIUM TRUCKS	59.0	57.5	51.2	49.6	58.3
HEAVY TRUCKS	60.3	58.9	49.8	51.1	59.6
VEHICULAR NOISE	68.0	66.3	63.4	58.4	67.5

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	56	122	262	416
DISTANCE TO CNEL (FT)	68	146	315	500

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	KATELLA AVE. - LOC 8	DATE:	29-Aug-97
LOCATION:	W/O LEXINGTON DENNİ RD. - FUTURE	BY:	B. LAWSON

ADT	56,300	PK HR VOL	5,630
SPEED	35 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	76 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	92.5
DIST WALL	0 FT	MED TRUCK SLE DIST	92.5
DIST W/OB	100 FT	HVY TRUCK SLE DIST	92.5
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES = 2.00 FT

MEDIUM TRUCKS= 4.00 FT

HEAVY TRUCKS = 8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	66.4	64.5	62.8	56.7	65.9
MEDIUM TRUCKS	58.9	57.4	51.1	49.5	58.2
HEAVY TRUCKS	60.2	58.8	49.7	51.0	59.5
VEHICULAR NOISE	67.9	66.2	63.3	58.3	67.4

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	56	120	258	409
DISTANCE TO CNEL (FT)	67	144	311	492

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	KATELLA AVE. - LOC 9	DATE:	29-Aug-97
LOCATION:	W/O WALKER ST. - FUTURE	BY:	B. LAWSON

ADT	47,600	PK HR VOL	4,760
SPEED	40 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	76 FT (M=76, P=52, S=36)	AUTO SLE DISTANCE	92.5
DIST WALL	0 FT	MED TRUCK SLE DIST	92.5
DIST W/OB	100 FT	HVY TRUCK SLE DIST	92.5
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT	AUTOMOBILES =	2.00 FT
ROAD	0 FT	MEDIUM TRUCKS =	4.00 FT
		HEAVY TRUCKS =	8.00 FT
GRADE:	0 %	GRADE ADJUSTM	0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	67.4	65.5	63.7	57.7	66.9
MEDIUM TRUCKS	59.1	57.6	51.2	49.7	58.4
HEAVY TRUCKS	60.0	58.6	49.5	50.8	59.3

VEHICULAR NOISE	68.6	66.8	64.1	59.0	68.1
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	62	133	286	453
DISTANCE TO CNEL (FT)	74	160	345	547

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	LOS ALAMITOS BLVD. - LOC 10	DATE:	29-Aug-97
LOCATION:	N/O CERRITOS AVE. - FUTURE	BY:	B. LAWSON

ADT	33,500	PK HR VOL	3,350
SPEED	35 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	76 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	92.5
DIST WALL	0 FT	MED TRUCK SLE DIST	92.5
DIST W/OB	100 FT	HVY TRUCK SLE DIST	92.5
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES =	2.00 FT
MEDIUM TRUCKS=	4.00 FT
HEAVY TRUCKS =	8.00 FT

GRADE:	0 %	GRADE ADJUSTM	0.0 DB TO HEAVY TRUCKS
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VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	64.2	62.3	60.5	54.5	63.7
MEDIUM TRUCKS	56.7	55.2	48.8	47.3	55.9
HEAVY TRUCKS	57.9	56.5	47.5	48.7	57.2

VEHICULAR NOISE	65.7	63.9	61.0	56.1	65.1
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	39	85	183	290
DISTANCE TO CNEL (FT)	47	102	220	348

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	LOS ALAMITOS BLVD. - LOC 11	DATE:	29-Aug-97
LOCATION:	N/O KATELLA AVE. - FUTURE	BY:	B. LAWSON

ADT	48,000	PK HR VOL	4,800
SPEED	35 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	76 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	92.5
DIST WALL	0 FT	MED TRUCK SLE DIST	92.5
DIST W/OB	100 FT	HVY TRUCK SLE DIST	92.5
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES =	2.00 FT
MEDIUM TRUCKS =	4.00 FT
HEAVY TRUCKS =	8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	65.7	63.9	62.1	56.0	65.3
MEDIUM TRUCKS	58.2	56.7	50.4	48.8	57.5
HEAVY TRUCKS	59.5	58.1	49.0	50.3	58.8
VEHICULAR NOISE	67.3	65.5	62.6	57.7	66.7

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	50	108	232	368
DISTANCE TO CNEL (FT)	60	130	279	443

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-001
ROADWAY:	LOS ALAMITOS BLVD. - LOC 12	DATE:	29-Aug-97
LOCATION:	N/O FARQUHAR AVE. - FUTURE	BY:	B. LAWSON

ADT	47,800	PK HR VOL	4,780
SPEED	35 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	76 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	92.5
DIST WALL	0 FT	MED TRUCK SLE DIST	92.5
DIST W/OB	100 FT	HVY TRUCK SLE DIST	92.5
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES =	2.00 FT
MEDIUM TRUCKS =	4.00 FT
HEAVY TRUCKS =	8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	65.7	63.8	62.1	56.0	65.2
MEDIUM TRUCKS	58.2	56.7	50.3	48.8	57.5
HEAVY TRUCKS	59.5	58.1	49.0	50.3	58.7

VEHICULAR NOISE	67.2	65.5	62.5	57.6	66.7
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	50	107	232	367
DISTANCE TO CNEL (FT)	60	129	279	441

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	LOS ALAMITOS BLVD. - LOC 13	DATE:	29-Aug-97
LOCATION:	S/O BRADBURY WAY - FUTURE	BY:	B. LAWSON

ADT	55,200	PK HR VOL	5,520
SPEED	40 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	76 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	92.5
DIST WALL	0 FT	MED TRUCK SLE DIST	92.5
DIST W/OB	100 FT	HVY TRUCK SLE DIST	92.5
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES = 2.00 FT

MEDIUM TRUCKS= 4.00 FT

HEAVY TRUCKS = 8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	68.0	66.1	64.4	58.3	67.5
MEDIUM TRUCKS	59.7	58.2	51.9	50.3	59.0
HEAVY TRUCKS	60.6	59.2	50.2	51.4	59.9

VEHICULAR NOISE	69.3	67.5	64.8	59.6	68.7
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DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	68	146	315	500
DISTANCE TO CNEL (FT)	82	177	381	604

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	BLOOMFIELD ST. - LOC 14	DATE:	29-Aug-97
LOCATION:	N/O CERRITOS AVE. - FUTURE	BY:	B. LAWSON

ADT	19,300	PK HR VOL	1,930
SPEED	40 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	36 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	98.4
DIST WALL	0 FT	MED TRUCK SLE DIST	98.4
DIST W/OB	100 FT	HVY TRUCK SLE DIST	98.4
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS:

(HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT
ROAD	0 FT

AUTOMOBILES =	2.00 FT
MEDIUM TRUCKS =	4.00 FT
HEAVY TRUCKS =	8.00 FT

GRADE: 0 %

GRADE ADJUSTM 0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	63.1	61.2	59.4	53.3	62.6
MEDIUM TRUCKS	54.8	53.3	46.9	45.4	54.1
HEAVY TRUCKS	55.7	54.2	45.2	46.5	54.9
VEHICULAR NOISE	64.3	62.5	59.8	54.7	63.8

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	32	68	147	233
DISTANCE TO CNEL (FT)	38	83	178	282

FHWA - RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO)

PROJECT:	LOS ALAMITOS NOISE ELEMENT TECH. STUDY	JN:	639-96-00
ROADWAY:	BLOOMFIELD ST. - LOC 15	DATE:	29-Aug-97
LOCATION:	N/O KATELLA AVE. - FUTURE	BY:	B. LAWSON

ADT	19,400	PK HR VOL	1,940
SPEED	35 MPH		
PK HR	10 %		
DIST CTL	100 FT		
DIST N/F	36 FT (M=76,P=52,S=36)	AUTO SLE DISTANCE	98.4
DIST WALL	0 FT	MED TRUCK SLE DIST	98.4
DIST W/OB	100 FT	HVY TRUCK SLE DIST	98.4
HTH WALL	0.0 FT		
HTH OBS	5 FT		

ROADWAY VIEW:

LF ANGLE	-90 DGR
RT ANGLE	90 DGR
DF ANGLE	180 DGR

SITE CONDITIONS: (HARD SITE=10, SOFT SITE=15)

AUTOMOBILE	15
MED TRUCKS	15
HVY TRUCKS	15
BARRIER	0

(0=WALL, 1=BERM)

ELEVATIONS:

PAD	0 FT	AUTOMOBILES =	2.00 FT
ROAD	0 FT	MEDIUM TRUCKS=	4.00 FT
		HEAVY TRUCKS =	8.00 FT
GRADE:	0 %	GRADE ADJUSTM	0.0 DB TO HEAVY TRUCKS

VEHICLE DISTRIBUTION:

	DAY	EVE	NIGHT	DAILY
AUTOMOBILES	0.775	0.129	0.096	0.9742
MEDIUM TRUCKS	0.848	0.049	0.103	0.0184
HEAVY TRUCKS	0.865	0.027	0.108	0.0074

UNATTENUATED NOISE LEVELS:

	LEQ PK HR	LEQ DAY	LEQ EVE	LEQ NIGHT	CNEL
AUTOMOBILES	61.4	59.5	57.7	51.7	60.9
MEDIUM TRUCKS	53.9	52.4	46.0	44.5	53.2
HEAVY TRUCKS	55.2	53.7	44.7	45.9	54.4
VEHICULAR NOISE	62.9	61.2	58.2	53.3	62.4

DISTANCES TO CONTOUR LINES:

NOISE LEVEL:	70	65	60	57
DISTANCE TO LEQ DAY (FT)	26	55	119	189
DISTANCE TO CNEL (FT)	31	67	144	228

CHAPTER 7 – ECONOMIC DEVELOPMENT ELEMENT Background Technical Report

INTRODUCTION

Keyser-Marston Associates, on behalf of the City of Los Alamitos, studied retail opportunities in the local market area. The analysis initially focused on a review of the demographics of the sub-region in which Los Alamitos is located. This was followed by an analysis of Citywide retail sales, trends and patterns. These factors, together with (1) KMA's knowledge of retail expenditure patterns, (2) existing and anticipated competitive conditions, and (3) locational requirements of major retailers, led to the identification of tenant types for which adequate market support appears to exist. KMA then narrowed the list of potential tenant types to those that could likely be attracted to the City.

The historic sales levels generated by restaurants located in the City, such as the Claim Jumper, clearly demonstrate the regional drawing capabilities of Los Alamitos, despite the lack of freeway visibility/proximity. However, the lack of freeway exposure, together with the number of retail centers currently existing and being planned in the region that have freeway exposure, limits the type and number of tenants that can be located in a non-freeway location. In addition, tenants that achieve a regional draw typically choose to locate in a concentration with other regional serving users. This reinforces the need for both a large development site and a freeway location to provide the necessary regional draw.

KMA reviewed both the demographic characteristics for one, three and five mile radii from the corner of Los Alamitos Boulevard and Katella Avenue, and for the market area that we believe will generate the majority of support for retail facilities located in the City. As indicated in Figure 7-1, this market area is bound by the San Diego Freeway (405) on the south, the San Gabriel (605) on the west, Wardlow on the north and Mindora Street on the east.

1. DEMOGRAPHICS

Attached herewith are selected demographics for one, three and five mile radii from the intersection of Los Alamitos Boulevard and Katella Avenue. Also included, are selected demographics for the market area and for comparison purposes for Los Angeles County. These demographics can be summarized as follows:

- The population level at the one-mile radius and market area is somewhat small at 12,000 and 40,000 people, respectively. However, the per capita (and household incomes) are extremely high; 54% and 46% higher than Los Angeles County average.
- The percentage of households earning greater than \$75,000 within the one mile radius is substantially greater than the percentage exhibited by Los Angeles County residents within one mile, over 40% of all households earn in excess of \$75,000. Comparatively, within the market area nearly 24% earn in excess of \$75,000. Thus, the close-in residents exhibit

substantially higher incomes than the residents of the County as a whole, and the market and residents appear to be somewhat more sufficient than the entire County population.

- The population residing within one mile and within the market area is significantly older than the County population. Specifically, nearly 55% of the population living within one mile and the market area is over the age of 35. This compares to 45% at the County level. Correspondingly, the percentage of the population below the age of 24 within the two areas is significantly lower than the County average.
- The immediate population is highly educated, with over 45% of the population attending or having attended college.

The review of demographics clearly indicated that the immediate population base can be characterized as highly educated and older, with high-income households. For the most part, the people within the market area have administrative and managerial jobs. These characteristics would suggest a high level of discretionary income reflective of older high-income households without young children.

2. RETAIL POTENTIAL

Based on the current level of population and income found within the market area, KMA has estimated the current potential for traditional retail establishments¹ at \$250 million as shown in Table 7-5. Based on the anticipated income and population growth occurring in the market area over the next 5 years, this retail potential should approach \$310 million. While the residents of the market area are expected to spend \$250 million in traditional retail stores, it must be noted that not all of this potential can be retained in the City, inasmuch as considerable expenditures will be captured by other retail facilities such as regional shopping centers, warehouse, clubs, i.e., Costco and Sams, as well as other centers that contain large value-oriented tenants such as Best Buy, WalMart, Target, etc.

3. TAXABLE SALES TRENDS

Taxable retail sales trends within the City from 1987 to 1995 are presented in both nominal dollars (Table 7-6) and “real” dollars (Table 7-7). A review of this data indicates the following:

- Retail sales have been declining in the City in both the traditional shopping type retail categories and for all retail establishments. Between 1987 and 1995, traditional retail stores sales fell by \$18 million from \$86 million to \$68 million or nearly 21% (in nominal dollars) and by over 40% in real dollars (from \$86 million to \$51 million).
- Historically, per capita sales within the City have been higher than per capita sales within the State of California, Southern California and adjacent selected cities of Cypress and Seal Beach (See Table 7-8). While the high per capita sales are partially reflective of high per capita income, they also reflect the import of sales in Building Materials (Primarily Barr Lumber); non-retail establishments (such as printing) and, most notably, the import of

¹ Includes general merchandise, apparel, convenience stores, eating and drinking establishments, home furnishings, electronics and sporting goods.

substantial dollars in the eating and drinking category. However, due to the recent decline in sales within the City, the per capita sales within the City is moving toward the State average.

The analysis of retail sales in the City, between 1987 and 1995, by major retail categories is presented in Table 7-9. As indicated, the exception of (1) non-traditional retail, i.e., service stations, auto dealers, and other retail, and (2) home furnishing categories, retail sales in the primary retail categories have fallen since 1990. In addition, the Eating and Drinking retail category, the largest single sales tax generating category has fallen since 1989.

While the decline in sales since 1992 is a partial reflection of the poor state of the Southern California economy, there are fundamental shifts that have hurt retail sales in the City. These include the consolidation of the retail industry into large stores, creating physical obsolescence of the existing inventory and the development of large freeway-oriented retail centers. However, of particular concern is the decline of sales in the drug, food and liquor categories. These sales typically remain in the community and are not impacted by the large "regional" centers.

4. RETAIL OPPORTUNITIES

Based on a review of the demographics of the market area (and sub-regions), historical Citywide sales trends competition and current retail trends, the opportunities by major retail category are as follows:

- **Apparel and General Merchandise** The City's share of this category is low and declining, and given the industry trend toward larger freeway-oriented stores, little expansion in this category is foreseen.
- **Convenience (Food, Drug & Liquor)** At the present time, the City is capturing less than 25% of retail potential generated in the market area in these categories. This is substantially less than would be expected. Specifically absent in the City, is a specialized food store, a quality drug store or large liquor/wine store. The low capture rate, plus the absence of quality stores would clearly suggest expansion in this area.

- Eating/Drinking

Sales in this category have fallen off since 1989, although there remains a substantial import of eating and drinking sales, which demonstrates strength in this area. At the present time, restaurant businesses are very competitive with new waterfront and cinema-based retail complexes being proposed. While expansion of new facilities may not be possible given the extent of competition, the City should aggressively attempt to preserve the existing market share through an aggressive marketing program.
- Home Furnishing

Home furnishing is one category where sales have increased since 1992. The demographics of the households in the market area (primarily the older residents with high incomes) together with the predominance of higher priced single-family homes and the image of Los Alamitos suggests that substantial inroads could be made in the Home Furnishing category.
- Building Material

Sales in this category are dependent on the state of home building in Southern California, and not on the local population base. Furthermore, given the existence of Barr Lumber and Home Base to the north, little expansion opportunity is foreseen.
- Other Retail

Other retail includes a wide range of store types ranging from electronics to books. While disclosure issues do not allow KMA to analyze this category in detail, field surveys clearly suggest a lack of electronics, book and sporting goods stores. However, these retail categories are increasingly being dominated by large store formats, i.e., Borders, Best Buy, SportsMart that require locations in shopping centers or strong retail concentrations. While KMA is convinced that the educational and income levels would support expansion in this area, finding suitable tenants may be difficult.

5. CONCLUSION

The analysis of the demographic characteristics and sales trends in combination with the tenant requirements and competition factors, leads KMA to conclude that the near-term efforts of the City should be focused on:

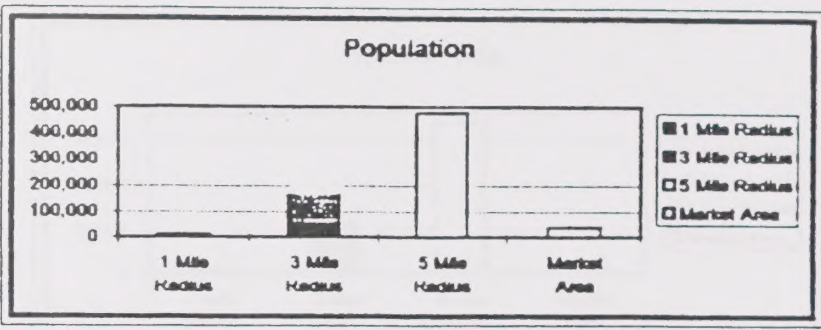
- A. Securing a specialty market such as Trader Joe's. Such a facility would not only be successful in and of itself, but the additional business generated would be a catalyst for additional stores.
- B. Securing home furnishing stores. Such stores could be small and specialize in non-furniture merchandise, i.e., specialty items such as lighting, floor, wall and window coverings, home improvements, accessory items, etc.
- C. Securing a bookstore or electronics store. Clearly the market area's income and educational levels, together with the lack of such stores, suggest an opportunity exists.
- D. Marketing the existing restaurants in the City (and immediate area) to convey the notion that the wide range of restaurants found in the City (and immediate area) represent, in fact, a restaurant row.
- E. The City should attempt to attract a major coffee shop as part of either a specialty home furnishing complex or a bookstore.

TABLE 7-1

1995 DEMOGRAPHICS
LOS ALAMITOS BLVD. AND KATELLA AVE.
RETAIL OPPORTUNITIES ANALYSIS
CITY OF LOS ALAMITOS

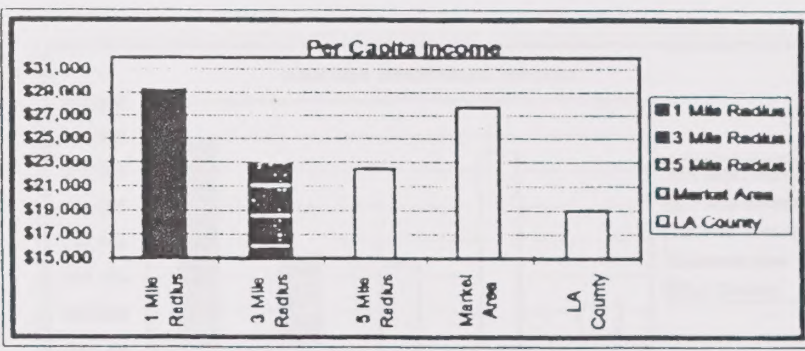
Population

1 Mile Radius	12,000
3 Mile Radius	166,000
5 Mile Radius	477,000
Market Area	40,000
LA County	9,213,000



Per Capita Income

1 Mile Radius	\$29,300
3 Mile Radius	\$22,900
5 Mile Radius	\$22,400
Market Area	\$27,700
LA County	\$19,000



Aggregate Household Income (Millions)

1 Mile Radius	\$350
3 Mile Radius	\$3,800
5 Mile Radius	\$10,700
Market Area	\$1,100
LA County	\$175,000

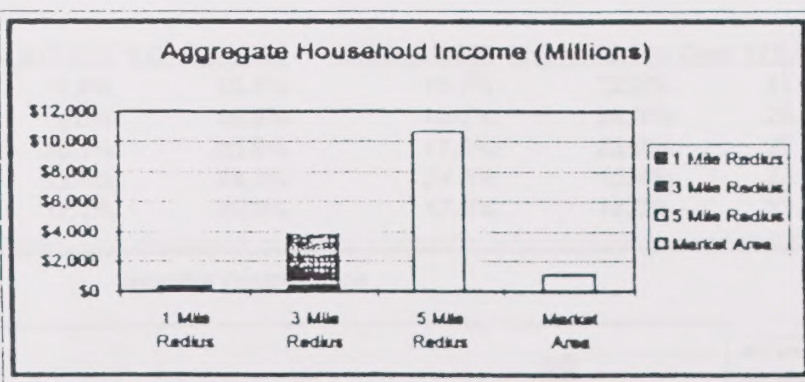
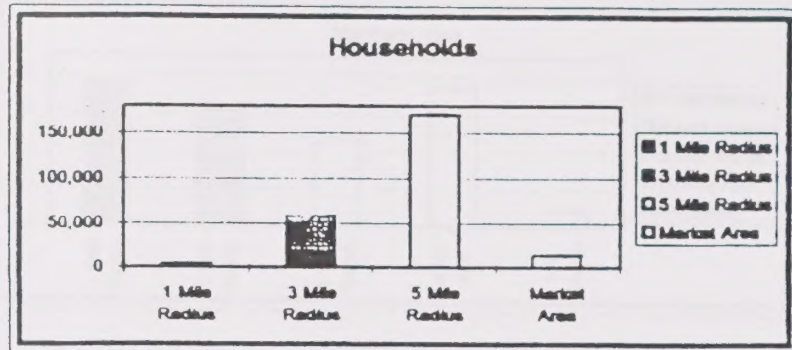


TABLE (CONT.) 7-1

1995 DEMOGRAPHICS
LOS ALAMITOS BLVD. AND KATELLA AVE.
RETAIL OPPORTUNITIES ANALYSIS
CITY OF LOS ALAMITOS

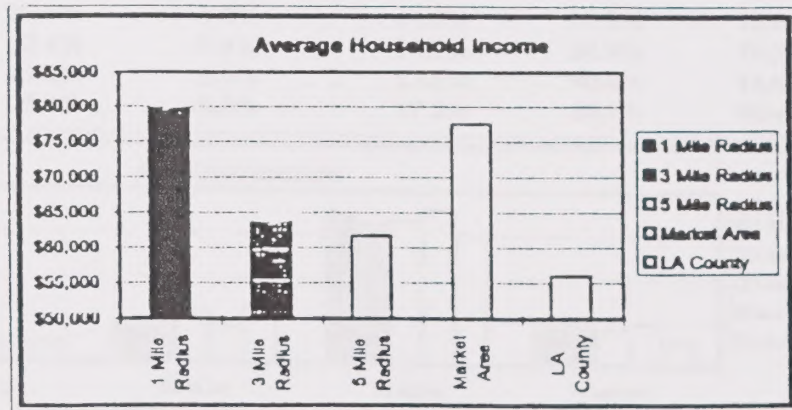
Total Area Households

1 Mile Radius	4,433
3 Mile Radius	58,818
5 Mile Radius	170,393
Market Area	14,202
LA County	3,061,621



Average Household Income

1 Mile Radius	\$79,900
3 Mile Radius	\$63,600
5 Mile Radius	\$61,700
Market Area	\$77,600
LA County	\$56,000



Household Income Distribution

	Under \$15,000	\$15 to 35,000	\$35 to 50,000	\$50 to 75,000	Over \$75,000
1 Mile Radius	5.4%	15.4%	15.7%	22.2%	41.3%
3 Mile Radius	9.6%	19.8%	16.7%	24.0%	29.9%
5 Mile Radius	10.1%	20.8%	17.9%	23.9%	27.3%
Market Area	12.5%	24.3%	24.3%	15.4%	23.6%
LA County	17.7%	25.9%	17.2%	18.0%	21.3%

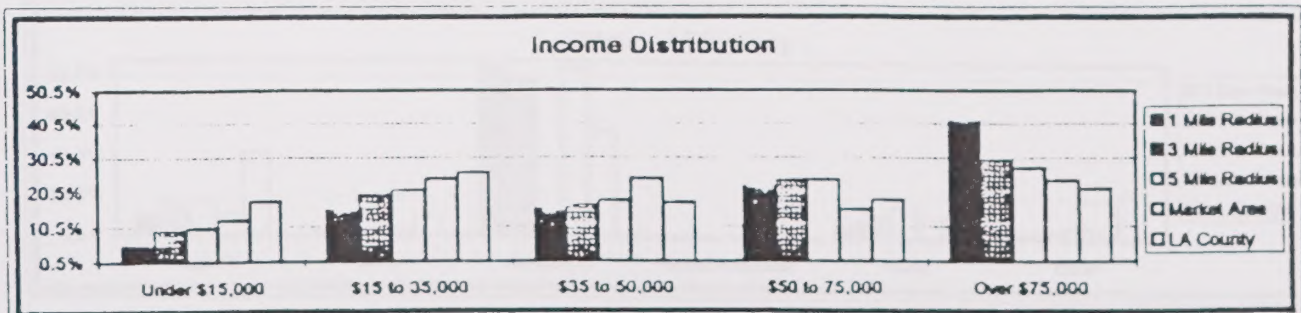
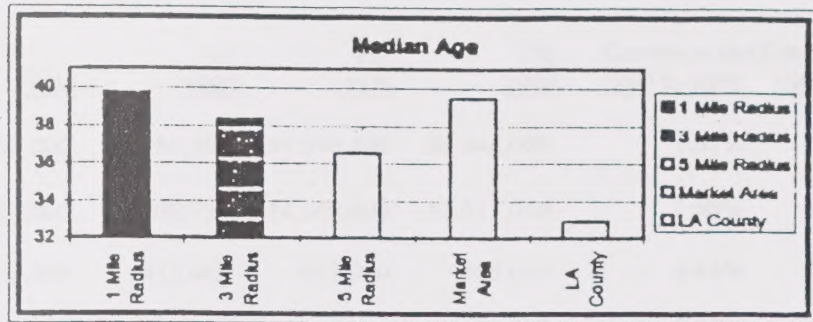


TABLE (CONT.) 7-1

1995 DEMOGRAPHICS
LOS ALAMITOS BLVD. AND KATELLA AVE.
RETAIL OPPORTUNITIES ANALYSIS
CITY OF LOS ALAMITOS

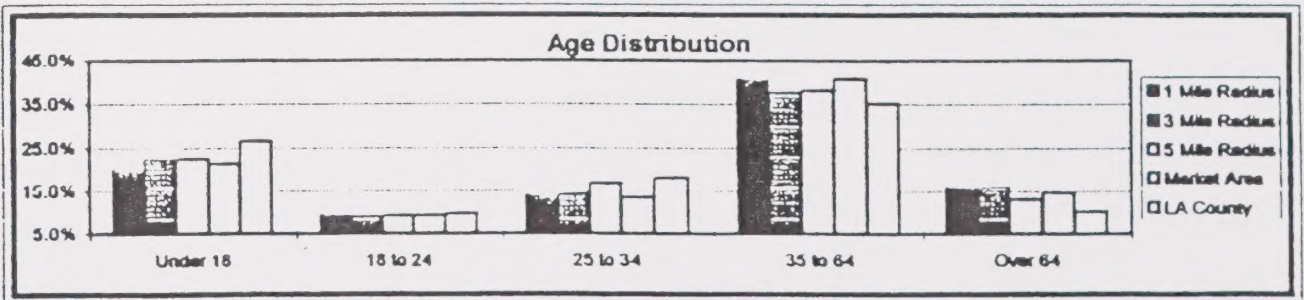
Median Age

1 Mile Radius	39.8
3 Mile Radius	38.4
5 Mile Radius	36.6
Market Area	39.5
LA County	32.9



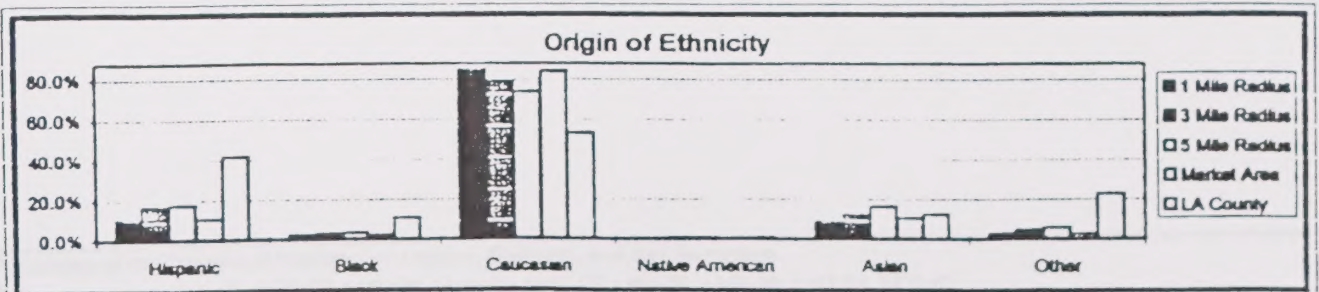
Age Distribution

	Under 18	18 to 24	25 to 34	35 to 64	Over 64
1 Mile Radius	19.9%	9.6%	14.1%	40.5%	15.9%
3 Mile Radius	22.4%	9.3%	14.5%	37.9%	15.9%
5 Mile Radius	22.4%	9.4%	16.7%	38.3%	13.2%
Market Area	21.2%	9.5%	13.6%	40.8%	14.6%
LA County	26.6%	9.9%	17.9%	35.2%	10.4%



Origin of Ethnicity¹

	Hispanic	Black	Caucasian	Native American	Asian	Other
1 Mile Radius	10.6%	2.3%	85.4%	0.3%	9.0%	3.0%
3 Mile Radius	17.1%	2.9%	79.2%	0.5%	12.5%	5.0%
5 Mile Radius	17.7%	3.4%	73.8%	0.5%	16.5%	5.9%
Market Area	10.4%	2.1%	84.2%	0.4%	10.6%	2.8%
LA County	41.7%	10.8%	53.5%	0.5%	12.6%	22.6%



¹ Hispanics are also included in other categories.

TABLE 7-2

POPULATION TREND
 SELECTED AREAS
 RETAIL OPPORTUNITIES ANALYSIS
 CITY OF LOS ALAMITOS

	<u>1985</u>	<u>1990</u>	<u>Est 1995</u>	<u>Prj. 2000</u>	<u>Compounded Growth Rate</u>	
					<u>1990 to 1995</u>	<u>1995 to 2000</u>
California	26,113,000	29,758,291	31,910,000	36,444,000	1.41%	2.69%
Southern California ⁽¹⁾	12,124,000	13,862,513	14,980,000	16,817,000	1.56%	2.34%
5 Mile Radius	413,000	412,688	477,000	509,000	2.94%	1.31%
3 Mile Radius	156,000	160,712	166,000	178,000	0.65%	1.41%
1 Mile Radius	11,400	11,804	12,200	13,000	0.66%	1.28%
Los Alamitos Market Area ⁽²⁾	37,200	38,743	40,300	42,000	0.79%	0.83%

⁽¹⁾ Consists of the Counties of Orange, Los Angeles, Riverside, and San Bernardino

⁽²⁾ Census tracts: 1100.06, 1100.07, 1100.08, 1100.12, 1100.13, 1101.06, 1101.08, 1101.14, 5739.02

Sources: Census of Population and Housing, Atlas GIS, UDS, City of Los Alamitos and KMA

TABLE 7-3

COMPARISON OF PER CAPITA INCOME
 SELECTED AREAS
 RETAIL OPPORTUNITIES ANALYSIS
 CITY OF LOS ALAMITOS

	<u>1980</u>	<u>1990</u>	<u>Est 1995</u>	<u>Aggregate Annual Growth Rate</u>	
				<u>1980 to 1990</u>	<u>1990 to 1995</u>
----- Nominal Dollars -----					
5 Mile Radius	\$8,600	\$19,300	\$25,500	12.44%	6.42%
% of Southern California	79.6%	80.4%	92.1%		
3 Mile Radius	\$12,900	\$19,600	\$22,900	5.19%	3.37%
% of Southern California	119.0%	81.7%	82.7%		
% of 5 Mile Radius	150.0%	101.6%	89.8%		
1 Mile Radius	\$14,000	\$25,200	\$29,300	8.00%	3.25%
% of Southern California	130.0%	105.0%	105.8%		
% of 5 Mile Radius	162.8%	130.6%	114.9%		
% of 3 Mile Radius	108.5%	128.6%	127.9%		
Los Alamitos Market Area ⁽¹⁾	\$10,800	\$24,000	\$27,700	12.22%	3.08%
----- 1980 Dollars -----					
5 Mile Radius	\$8,600	\$11,900	\$13,800	3.84%	3.19%
3 Mile Radius	\$12,900	\$12,100	\$12,400	-0.62%	0.50%
1 Mile Radius	\$14,000	\$15,500	\$15,900	1.07%	0.52%
Los Alamitos Market Area ⁽¹⁾	\$10,800	\$14,800	\$14,997	3.70%	0.27%

⁽¹⁾ Census tracts: 1100.06, 1100.07, 1100.08, 1100.12, 1100.13, 1101.06, 1101.08, 1101.14, 5739.02

Sources: Census of Population and Housing, Atlas GIS, Bureau of Labor Statistics, and KMA

TABLE 7-4

1995 HOUSEHOLD INCOME DISTRIBUTION
 SELECTED AREAS
 RETAIL OPPORTUNITIES ANALYSIS
 CITY OF LOS ALAMITOS

	<u>California</u>	<u>Southern California</u>	<u>5 Mile Radius</u>	<u>1 Mile Radius</u>	<u>Los Alamitos Market Area</u> ⁽¹⁾
Less than \$25,000	29%	22%	20%	12%	21%
Between \$25,000 and \$49,999	31%	28%	29%	25%	40%
\$50,000 and Greater	40%	50%	51%	64%	39%
Between \$50,000 and \$74,999	19%	23%	24%	22%	15%
\$75,000 and Greater	21%	27%	27%	41%	24%
Average Household Size	2.9	2.9	2.8	2.8	2.8

⁽¹⁾ Census tracts: 1100.06, 1100.07, 1100.08, 1100.12, 1100.13, 1101.06, 1101.08, 1101.14, 5739.02

Source: Atlas GIS, Urban Decisions Systems and KMA

TABLE 7-5

ESTIMATED RETAIL POTENTIAL⁽¹⁾
LOS ALAMITOS MARKET AREA
RETAIL OPPORTUNITIES ANALYSIS
CITY OF LOS ALAMITOS

	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>Est.</u> <u>1995</u>	<u>Prj.</u> <u>2000</u>
Population	36,000	37,000	39,000	40,000	42,000
Per Capita Income	\$10,800	16,100	\$24,000	\$27,600	\$31,700
Total Aggregate Income (000)	\$390,000	\$600,000	\$940,000	\$1,100,000	\$1,330,000
Estimated Normal Retail Potential (Expenditures) @ 23% of Aggregate Income (000)	\$90,000	\$140,000	\$220,000	\$250,000	\$310,000

⁽¹⁾ Includes: General Merchandise, apparel, convenience stores, eating & drinking establishments, home furnishings, electronics, and sporting goods.
Sources: Atlas GIS, State Board of Equalization and KMA

TABLE 7-6

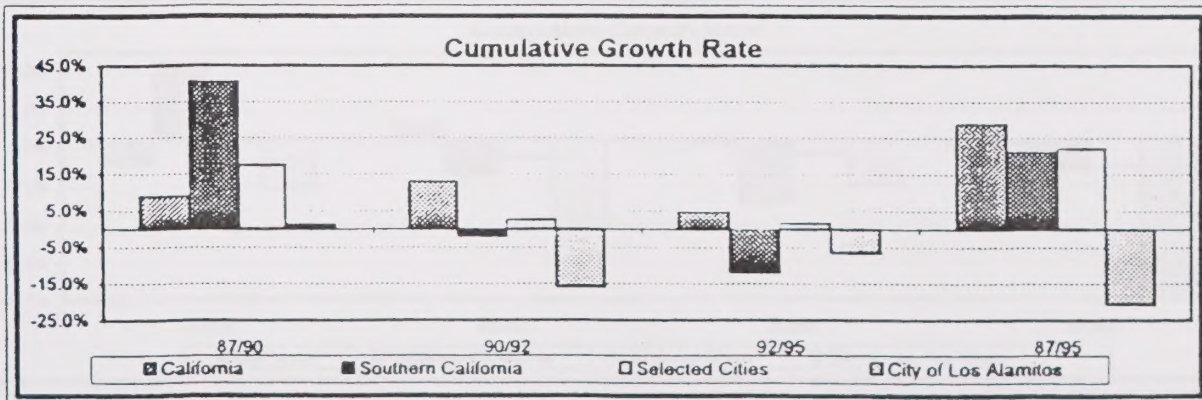
TAXABLE RETAIL SALES TRENDS
NOMINAL DOLLARS
SELECTED AREAS
RETAIL OPPORTUNITIES ANALYSIS
CITY OF LOS ALAMITOS

Taxable Retail Sales (\$1,000's)

<u>Area</u>	<u>1987</u>	<u>1990</u>	<u>1992</u>	<u>1995</u>
California				
Total	\$150,252,000	\$181,655,000	\$179,275,000	\$194,378,000
Traditional Retail Categories ⁽¹⁾	97,403,000	106,269,000	120,015,000	125,441,000
Southern California ⁽²⁾				
Total	70,265,000	92,562,000	88,773,000	85,218,000
Traditional Retail Categories ⁽¹⁾	44,785,000	63,125,000	61,778,000	54,322,000
Selected Cities ⁽³⁾				
Total	253,000	273,000	275,000	285,000
Traditional Retail Categories ⁽¹⁾	172,000	202,000	207,000	210,000
City of Los Alamitos				
Total	117,000	113,000	96,000	92,000
Traditional Retail Categories ⁽¹⁾	86,000	87,000	73,000	68,000

Cumulative Growth Rate

<u>Area</u>	<u>87/90</u>	<u>90/92</u>	<u>92/95</u>	<u>87/95</u>
California	9.1%	12.9%	4.5%	28.8%
Southern California ⁽²⁾	41.0%	-2.1%	-12.1%	21.3%
Selected Cities ⁽³⁾	17.4%	2.5%	1.4%	22.1%
City of Los Alamitos	1.2%	-16.1%	-6.8%	-20.9%



⁽¹⁾ Includes: General Merchandise, apparel, convenience stores, eating & drinking establishments, home furnishings, electronics, and sporting goods.

⁽²⁾ Consists of the Counties of Los Angeles, Orange, Riverside, and San Bernardino

⁽³⁾ Consists of the Cities of Cypress and Seal Beach

Source: State Board of Equalization

TABLE 7-7

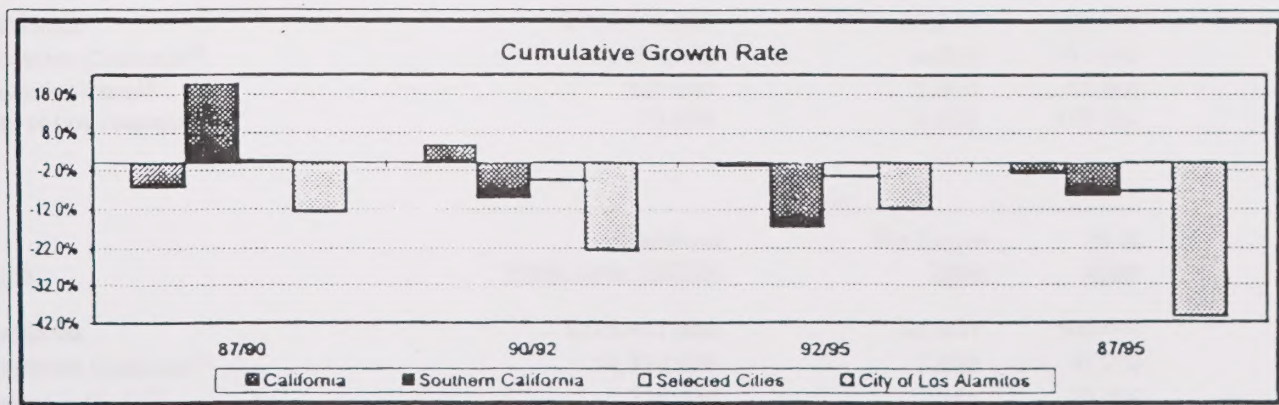
TAXABLE RETAIL SALES TRENDS
1986 REAL DOLLARS
SELECTED AREAS
RETAIL OPPORTUNITIES ANALYSIS
CITY OF LOS ALAMITOS

Taxable Retail Sales (\$1,000's)

<u>Area</u>	<u>1987</u>	<u>1990</u>	<u>1992</u>	<u>1995</u>
California				
Total	\$150,252,000	\$155,990,000	\$142,808,000	\$146,727,000
Traditional Retail Categories ⁽¹⁾	97,403,000	91,255,000	95,602,000	94,689,000
Southern California ⁽²⁾				
Total	70,265,000	79,485,000	70,715,000	64,327,000
Traditional Retail Categories ⁽¹⁾	44,785,000	54,207,000	49,212,000	41,005,000
Selected Cities ⁽³⁾				
Total	253,000	234,000	219,000	215,000
Traditional Retail Categories ⁽¹⁾	172,000	173,000	165,000	159,000
City of Los Alamitos				
Total	117,000	97,000	77,000	69,000
Traditional Retail Categories ⁽¹⁾	86,000	75,000	58,000	51,000

Cumulative Growth Rate

<u>Area</u>	<u>87/90</u>	<u>90/92</u>	<u>92/95</u>	<u>87/95</u>
California	-6.3%	4.8%	-1.0%	-2.8%
Southern California ⁽²⁾	21.0%	-9.2%	-16.7%	-8.4%
Selected Cities ⁽³⁾	0.6%	-4.6%	-3.6%	-7.6%
City of Los Alamitos	-12.8%	-22.7%	-12.1%	-40.7%



⁽¹⁾ Includes: General Merchandise, apparel, convenience stores, eating & drinking establishments, home furnishings, electronics, and sporting goods.

⁽²⁾ Consists of the Counties of Los Angeles, Orange, Riverside, and San Bernardino

⁽³⁾ Consists of the Cities of Cypress and Seal Beach

Sources: State Board of Equalization and Bureau of Labor Statistics

TABLE 7-8

SALES PER CAPITA
 TRADITIONAL RETAIL CATEGORIES⁽¹⁾
 SELECTED AREAS
 RETAIL OPPORTUNITIES ANALYSIS
 CITY OF LOS ALAMITOS

----- 1987 -----			
<u>Area</u>	<u>Traditional Retail Sales (1000's)</u>	<u>Per Capita Sales</u>	<u>% of State</u>
California	\$97,403,000	\$3,642	100.0%
Southern California ⁽²⁾	44,785,000	3,601	98.9%
Selected Cities ⁽³⁾	172,000	2,561	70.3%
City of Los Alamitos	86,000	7,452	204.6%
----- 1990 -----			
<u>Area</u>	<u>Traditional Retail Sales (1000's)</u>	<u>Per Capita Sales</u>	<u>% of State</u>
California	\$106,269,000	\$3,571	100.0%
Southern California ⁽²⁾	63,125,000	4,554	127.5%
Selected Cities ⁽³⁾	202,000	2,976	83.3%
City of Los Alamitos	87,000	7,536	211.0%
----- 1992 -----			
<u>Area</u>	<u>Traditional Retail Sales (1000's)</u>	<u>Per Capita Sales</u>	<u>% of State</u>
California	\$120,015,000	\$3,874	100.0%
Southern California ⁽²⁾	61,778,000	4,298	111.0%
Selected Cities ⁽³⁾	207,000	2,980	76.9%
City of Los Alamitos	73,000	6,053	156.3%
----- 1995 -----			
<u>Area</u>	<u>Traditional Retail Sales (1000's)</u>	<u>Per Capita Sales</u>	<u>% of State</u>
California	\$125,441,000	\$3,931	100.0%
Southern California ⁽²⁾	54,322,000	3,626	92.2%
Selected Cities ⁽³⁾	210,000	2,881	73.3%
City of Los Alamitos	68,000	5,479	139.4%

⁽¹⁾ Includes: General Merchandise, apparel, convenience stores, eating & drinking establishments, home furnishings, electronics, and sporting goods.

⁽²⁾ Consists of the Counties of Los Angeles, Orange, Riverside, and San Bernardino.

⁽³⁾ Consists of the Cities of Cypress and Seal Beach.

Sources: State Department of Finance and State Board of Equalization

TABLE 7-9

RETAIL SALES TRENDS (000)
 TRADITIONAL RETAIL CATEGORIES⁽¹⁾
 RETAIL OPPORTUNITIES ANALYSIS
 CITY OF LOS ALAMITOS

----- Nominal Dollars -----									
	1989	1992	1995	Retail Sales Growth					
				1989-1992		1992-1995		1989-1995	
				No.	%	No.	%	No.	%
Apparel Stores	\$984	\$2,358	\$1,362	\$1,374	140%	(\$996)	-42%	\$378	38%
Drug Stores	455	450	435	(5)	-1%	(15)	-3%	(20)	-4%
Food and Liquor Stores	4,772	7,754	6,044	2,982	62%	(1,710)	-22%	1,272	27%
Eating and Drinking Places	24,638	20,845	19,515	(3,793)	-15%	(1,330)	-6%	(5,123)	-21%
Home Furnish., and Appliances	1,535	1,015	1,935	(520)	-34%	920	91%	400	26%
Building Materials and Farm Supplies	39,955	29,934	29,117	(10,021)	-25%	(817)	-3%	(10,838)	-27%
Auto Dealers and Auto Supplies	2,124	2,119	2,378	(5)	0%	259	12%	254	12%
Service Stations	6,835	8,979	7,152	2,144	31%	(1,827)	-20%	317	5%
Other Retail Stores	23,612	22,357	23,930	(1,255)	-5%	1,573	7%	318	1%
Total	\$104,910	\$95,811	\$91,868	(\$9,099)	-9%	(\$3,943)	-4%	(\$13,042)	-12%
Total without Bldg. Mat. & Farm Suppl.	\$64,955	\$65,877	\$62,751	\$922	1%	(\$3,126)	-5%	(\$2,204)	-3%
----- 1989 Dollars -----									
Apparel Stores	\$984	\$2,065	\$1,130	\$1,081	110%	(\$935)	-45%	\$146	15%
Drug Stores	455	394	361	(61)	-13%	(33)	-8%	(94)	-21%
Food and Liquor Stores	4,772	6,791	5,016	2,019	42%	(1,775)	-26%	244	5%
Eating and Drinking Places	24,638	18,255	16,195	(6,383)	-26%	(2,060)	-11%	(8,443)	-34%
Home Furnish., and Appliances	1,535	889	1,606	(646)	-42%	717	81%	71	5%
Building Materials and Farm Supplies	39,955	26,215	24,164	(13,740)	-34%	(2,052)	-8%	(15,791)	-40%
Auto Dealers and Auto Supplies	2,124	1,856	1,973	(268)	-13%	118	6%	(151)	-7%
Service Stations	6,835	7,864	5,935	1,029	15%	(1,928)	-25%	(900)	-13%
Other Retail Stores	23,612	19,580	19,859	(4,032)	-17%	280	1%	(3,753)	-16%
Total	\$104,910	\$83,808	\$76,240	(\$21,002)	-20%	(\$7,668)	-9%	(\$28,670)	-27%
Total without Bldg. Mat. & Farm Suppl.	\$64,955	\$57,693	\$52,076	(\$7,262)	-11%	(\$5,617)	-10%	(\$12,879)	-20%

⁽¹⁾ Includes: General Merchandise, apparel, convenience stores, eating & drinking establishments, home furnishings, electronics, and sporting goods.

Sources: State Board of Equalization and KMA

BUSINESS ATTRACTION INCENTIVES

Based on KMA's analysis of existing and anticipated near-term market conditions, it is the opinion of KMA that the business attraction activities should be focused on the following major actions:

Create a Joint Marketing Committee

A Joint Marketing Committee should be developed to create a centralized marketing effort between the City and local businesses and merchants. The committee would have four primary goals:

- To develop a marketing plan that capitalizes on the success of existing restaurants to assist in attracting additional restaurants.
- To develop an effective public information program that advises residents and businesses on improved government services and plans to improve the quality of life within the City. As a part of this effort, the City should work with the local press to provide favorable media coverage of Los Alamitos.
- To plan themes and activities that will draw people to Los Alamitos from the surrounding communities. Ideally, the City should become known for a major annual or bi-annual event.
- To attend area trade shows in order to increase the City's positive exposure, and to maintain a strong understanding of the business community's needs.

Create a Business Development Committee

The Business Development Committee should include the following: A City Council member, a Planning Commissioner, the City Manager, a real estate broker, a banker and a resident appointed by the City Council. The committee should also include representatives from major employers such as: Ganahl Lumber Co., Trend Offset Printing and Marriott Distribution.

The committee would have four major goals:

- To function as an advisory board regarding business needs and concerns. The committee would evaluate public improvements and infrastructure; public services to business; planning; land use; building and safety policies and business tax and revenue policies.
- To function as an advisory board regarding business attraction and retention efforts. The committee would provide guidance and feedback on marketing materials and efforts of the Joint Marketing Committee. Most importantly, it would provide team resources for attracting and retaining businesses.
- To create a forum for direct communication between the business community and the City.
- To develop a business assistance center to serve the Los Alamitos area. The center could offer seminars covering topics pertinent to small businesses such as business start-up issues,

techniques for increasing the success of new ventures, employment practices, etc. The center could also serve as a place where businesses could take advantage of counseling services offered by experienced business consultants. The center should recruit operational support from Los Alamitos and adjacent cities.

Create Competitive Development Sites

1. Encourage retail development along Los Alamitos Boulevard and Katella Avenue by providing appropriate zoning and land use policies.
2. Encourage landowners to consolidate properties into larger sites for developments that have regional draw capabilities.
3. Work with Caltrans to improve the City's identity through better freeway/street signage. Develop a gateway sign for placement at major entrances to the City.

Attract Key Tenants

1. Identify the factors that assist and detract from Los Alamitos' ability to attract key tenants.
2. Identify public improvements and infrastructure needs that could potentially be funded by the City for the benefit of key tenants.
3. Create a key tenant loan program. This program could provide both tenant improvement loans and façade upgrades for existing buildings. These loans could be repaid through a tax rebate program.
4. Develop a program to defer permits and fees for key tenants to reduce the up-front cost of locating in Los Alamitos.
5. Publish a permit guide that provides the necessary contacts and a streamlined approach to doing business in the City of Los Alamitos.

Actively Recruit Businesses

1. Utilize existing businesses to recruit others, especially new businesses that have similar personnel, resources and locational requirements as those participating in recruitment.
2. Develop an early response network involving the utilities companies, real estate professionals and environmental regulatory agencies to share leads on businesses interested in Los Alamitos; actively recruit those firms.
3. Focus business attraction programs on businesses that serve the local demographics, and that would be attracted to the City's high quality of life.
4. Place one person in charge of all aspects of retail recruitment from interface with the brokerage community to ensuring the efficient processing of plans and permits for new

tenants. Such a person should also be a clearinghouse for all potential tenant leads or inquiries.

Assume a Leadership Role in Regional Economic Development Efforts

1. Promote Los Alamitos as a good place to live and do business.
2. Participate in regional recruitment efforts, including trade show attendance, advertising to Southern California audiences, etc.
3. Actively support regional economic development associations, and take a leadership role to assure that their development efforts support a balanced distribution of economic development throughout the region.
4. Explore the opportunities to create business development and support systems in North Orange County.

BUSINESS RETENTION PROGRAMS

In order to retain and enhance the existing Los Alamitos tenants sales tax base, KMA recommends the following programs:

Track State and Federal Programs

The City's economic development staff should track all state and federal programs, for which Los Alamitos may be eligible, that would give the City additional competitive advantages. For instance, the City should seek specialized loans, grants and zone designations.

Mayor's Business Breakfast Series

The City should offer regularly scheduled breakfast meetings to introduce local business operators to key City leaders. Such a breakfast series would open the lines of communication between businesses and the City, and would provide dedicated time of the City policy makers to this very important segment of the community.

Launch a Marketing Campaign for the Existing Restaurants in the City

The City should focus attention on successful restaurants within its borders. Potential activities include:

1. Developing a gateway sign or streetpost flags identifying the selected restaurants.
2. Attracting positive press coverage of special events and menu items at restaurants within the City.
3. Provision of wastewater discharge assistance or discounted water fees.

SUMMARY

The keys to the City of Los Alamitos' successful business attraction and retention can be summarized as follows:

- The City should attempt to achieve the redevelopment of the retail center located at Los Alamitos Boulevard and Katella Avenue.
- The City should attempt to capitalize on the success of existing restaurants to attract new restaurants and to retain the existing successful restaurants.
- The City should actively seek to attract key tenants to existing projects within the City. The attraction strategy should include the provision of incentives that increase Los Alamitos' competitiveness in the regional market place.
- The City should create marketing and business development committees to assist in the attraction/retention effort.
- The City should provide opportunities for the business and residential communities to interface with the City policy makers.

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